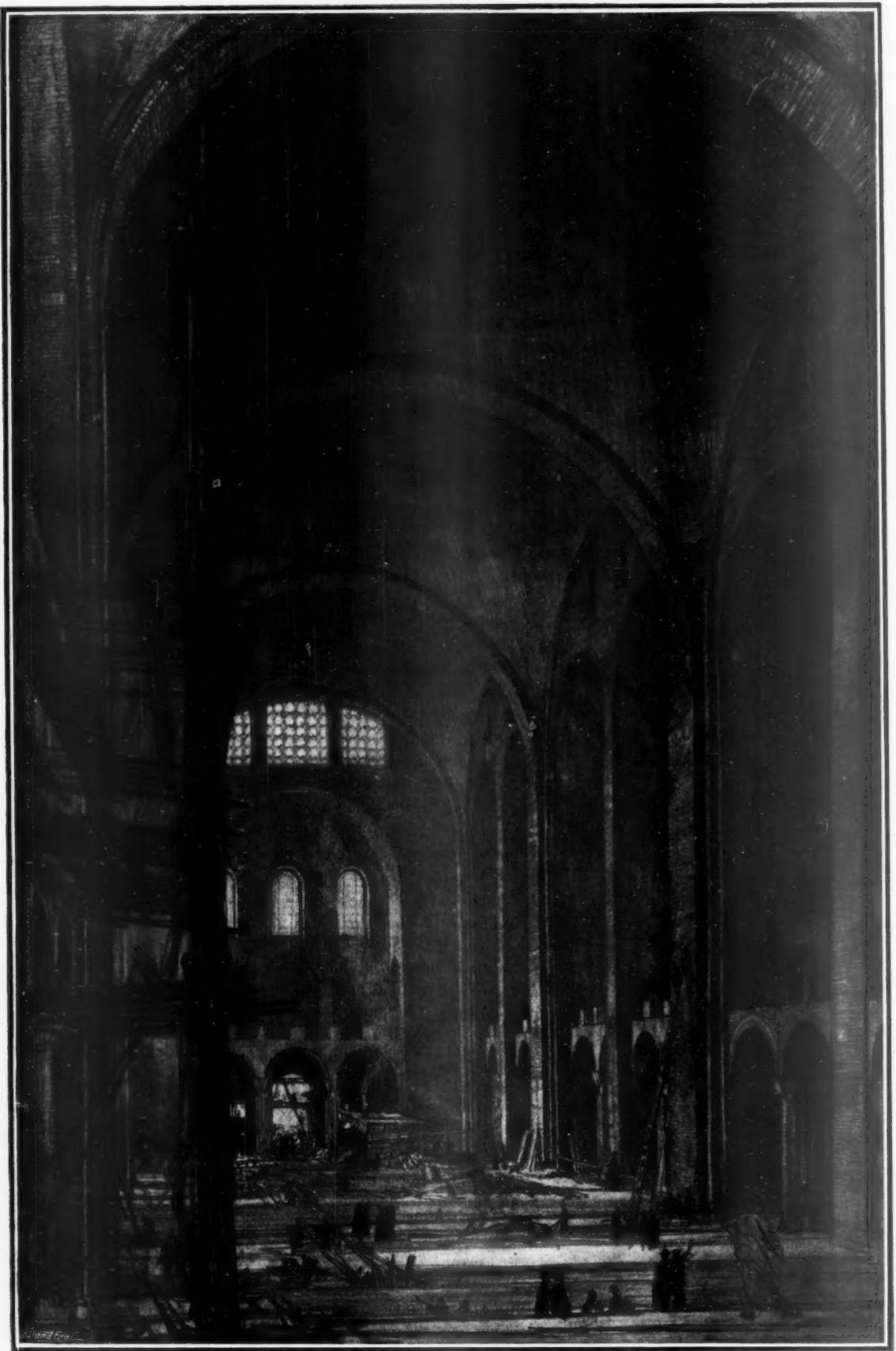


THE ARCHITECTURAL  
REVIEW, VOLUME XI.,  
NO. 66, MAY, 1902.



WESTMINSTER CATHEDRAL, FROM THE SANCTUARY.  
DRAWN BY J. MUIRHEAD BONE.

J OHN FRANCIS BENTLEY. BY  
HALSEY RICARDO. I.—CHURCH  
BUILDINGS.

OF the long line of "Gothic" architects whose ancestry derives from Pugin and his contemporaries, the descendants are becoming very few, and the death of Mr. Bentley removes one of the most distinguished of that race. Of the great men of fifty years ago, his particular forbear, I think, is Mr. Butterfield, and in their attitude towards the work they had to do I find much in common. Scott and Pearson consciously, Pugin, Burges, and Street deliberately, attempted to put back the clock, and for an hour apparently stayed its hands. Butterfield recognised that the problems of his day had to be faced, and set himself to cope with them, using the forms of the mediæval builders, because to the interest of his time in their constructions, he added his own early study and his own sympathy.

At the back of these men was the great force of cultivated opinion. The opening of the nineteenth century found the vocal part of England united—both poetry and prose were great powers in the land, and their power was widespread. On the wave of this aroused feeling rode the architects, urged and encouraged by all the genius and talent of their day. Since the days of mediæval architecture, the arts of painting, sculpture, and architecture have never been of the people popular; perhaps they came most nearly so again in the early days of the Gothic Renaissance. Art, in England of the sixteenth century, was subliming itself into something that required a virtuoso to comprehend, and when the Classic Renaissance arrived in King James's time, it spoke a language that scarce anyone under the rank of a noble was able to understand. But nobility was purchasable in those days; nobles were many, and, as regarded architecture, unanimous. To be acquainted with the masterpieces of ancient and modern Italy was a necessary part of a gentleman's education, as much as a familiarity with Ovid and Petrarch. The canons of taste were defined and accepted, and under this aristocratic and educated patronage advanced the architecture of the seventeenth and eighteenth centuries. Though the patronage was critical, there was not much actual interference with the architect; the minor mysteries were left in his charge for his selection, arrangement, and devising. The "romantic" movement at the close of the eighteenth century found the architecture of the cultured elect growing ever stiffer, drier, more inelastic, more rarefied; it came with a new gospel to a new audience. Gothic architecture was the indigenous architecture, the people's archi-

tecture, to be understood and appreciated by all and sundry; and for all and sundry to pronounce upon. But "the people," long ago divorced from these arts, cared nothing about the revival. The motive power came from the book-reading class, and by this time the sluice gates of literature were well up and a flood of printed matter poured over the land. To this new tribunal the "Gothic" architects appealed. Old judgments were reversed, new decisions set up. Individual opinion, with an appeal to the High Court of Antiquarian Research, governed the erection of new buildings. Individual opinion at first, as became it, began modestly; but as the area of research extended it lost its timidity, and every student of the text book examples of mediæval buildings claimed to exercise his verdict. *Quot homines, tot sententiae.*

Living architecture was not called for. But you can't kill architecture—men must build, and to suit the conditions of their own time. The dream-palaces of Pugin and Street fulfilled no real want in the actual world; they took shape in obedience to an awakened conscience in a large section of the thoughtful public, and they owed their excellence and their impressiveness to the amount of passion and enthusiasm aroused. But these dreams had no substantial foundations; copies of mediæval buildings, they came into being under quite other conditions, and they really breathed a different spirit. With Butterfield the case is different. He based himself on utility, fitness, and construction, and so far he worked side by side with the mediæval builders. He had studied their work with deep analysis and sympathy, and he used from familiarity and preference their forms. The public who employed him called him a Gothic architect, and he accepted the appellation, but he really stood poles asunder from their conception of building and their processes of development. Mr. Butterfield's strength lay in the great backing of popular opinion behind him; his great knowledge of mediæval architecture, his keen observation of construction, that was collected and consolidated beneath him, himself and his passionate sincerity; and before him his faith and his ideal. Out of the fervour of this strength rose the ecclesiastical and collegiate buildings that call him author. Unlike his contemporaries' work, they have a quality of reality, of common sense, of directness; they breathe a passion as romantic as fervent; these buildings are not the attitude of prayer—they are prayer itself. Everything in them has been felt, has been seen; nothing eked out by formula or with padding.

And they take the world as they find it; there is no affectation, no pretence that they are the hitherto overlooked survivals of the Middle Ages.

They stand on their own merits, in their own wholesome sincerity, and with a certain *gaieté de cœur* that comes from a consciousness that the work has been simply and thoroughly well done. Secure in his faith, and supported by the voices of the best in England of his time, Mr. Butterfield could turn to his work and say "It is well done"; and the shade of Christopher Wren would have hailed him as son. There have been many generations born and dead since Queen Victoria succeeded Queen Anne, but Mr. Butterfield was a direct and true descendant of the architect of St. Paul's. And—a generation later—came Mr. Bentley. The wave of romantic enthusiasm had broken, and was spending itself in multitudinous independent wavelets, spreading diffusely undirected. Its value as a power to lift one over the bar of apathy and inert resistance, and to carry one past the familiar shore to new heights and old forgotten landmarks, was gone; and a man had to reach shore with what craft and what knowledge of paddling he could command. For Mr. Bentley there was no tidal wave awaiting him to mount, such as had swept in Pugin on its crest; it was passing, but he followed in its wake, and was helped by the permanent impetus given to such spirits by the Church of Rome. I think one sees this loss of popular support in Mr. Bentley's work—his touch is not so secure, his ideals not so clearly defined. Like Mr. Butterfield he based himself on knowledge of materials and construction, but the quarter of a century that there was between them was pregnant with new methods of construction, new forms of materials, and corrosive of the old traditional processes. Early in the nineteenth century all England was covered with a multitude of mediæval buildings, sadly ruined, mutilated, botched, abused, but for all that authentic so far as they went, and the traditions evolved from these early builders could authentically be discerned in the later buildings, gradually fading and stiffening as the eighteenth century drew to its close, but still unmistakably genuine. To such a repository Mr. Butterfield had access in his youth, and from it he drew his knowledge. By the time Mr. Bentley had directed his thoughts to the learning of architecture, much—I am afraid I may say most—of this wealth of examples was gone. And worse than gone, for reconstructions stood in their place, mocking and repelling with their vacant history and their purposeless antiquarianisms the seeker after the story and purport of their existence. New facilities of construction, new materials, new adaptations, and new wants pressed upon the exponents of the verity and capability of the Gothic forms of architecture, and found most of them unprepared. A

mediæval builder knew his materials to the last grain of their possibilities, for he came of a long ancestry of experience, and his hand was never off them; the architect of our day, when the novelties were pressed upon him, arranged for their disposal as discreetly and intelligently as his nature would allow him, trusting for their qualities to hearsay; and there is a kind of resentfulness in such use, leading generally to a concealment of the actual services of these new agents, or else an ignorant bragadoccio, still more destructive of progress.

It was Mr. Bentley's fortune, and possibly his choice—for fortune is more often under our grasp than we care to reflect—to enter on his life's work under favourable auspices. Almost as a boy he was put into the clerk of works' office when the rebuilding of Doncaster Church was in hand, and stone was passing from the quarryman, through the masons' hands, to the wrought stateliness of the present erection; and when still quite a youth he came to London and entered into a builder's yard, where again he was in contact with the actual substances that go to make a building, and it is this knowledge that gives the special qualities to Mr. Bentley's work.

So far as can be done, working through other men's hands, he sets the stamp of his individuality upon every brick that is laid, every stone that is shaped, every detail that is wrought; and he does this not by torturing or straining his materials, but from sympathy with their nature, and knowledge of how to handle them. All through the mighty cathedral at Westminster, his greatest work, the dominance of Mr. Bentley is perfect—not a thing has been done but has been done in his way, to his design, by his ordering. One mind infuses every line, every detail, and there is no escape from it. This omnipresence becomes oppressive—it is superhuman—one wants to escape into a freer element away from such tyranny. This is the despotism of architecture, and one wants an oligarchy of the aristocracy—a rule less rigid.

The church at Watford is a very complete instance of this power. Here Mr. Bentley had full licence to do what he desired, and to carry as far as he chose his knowledge of past examples, of present possibilities, and his mastery of detail. Outwardly, and at first glance, it is a Gothic building, such a one as a pious founder might erect in the days when Edward I. was stretching his long legs in England. But, on further reflection, one detects the difference between the product of one mind and the sum of many co-ordinated. The limitations of the human mind, wide and eclectic as that mind may be, still form a kind of imprisonment. In spite of Mr. Bentley's



CONVENT CHAPEL, BRAINTREE, ESSEX.

great knowledge, in spite of his mastery over the forms that he was using, the church is a precipitate, not a growth. What is alive in it is his devotion. You have the human heart flaming itself out in sincere passion, lonely and autocratic. All that you see derives from his brain, and, in a sense, might have been executed by engines. The worker contributes his fingers, not his brains. Each craftsman was encouraged to put forth his

best technical skill to carry out the design put before him, but there was to be no deviation, no thought of alteration. The design was a summary of Mr. Bentley's knowledge and resources, and at the finish it remains purely that.

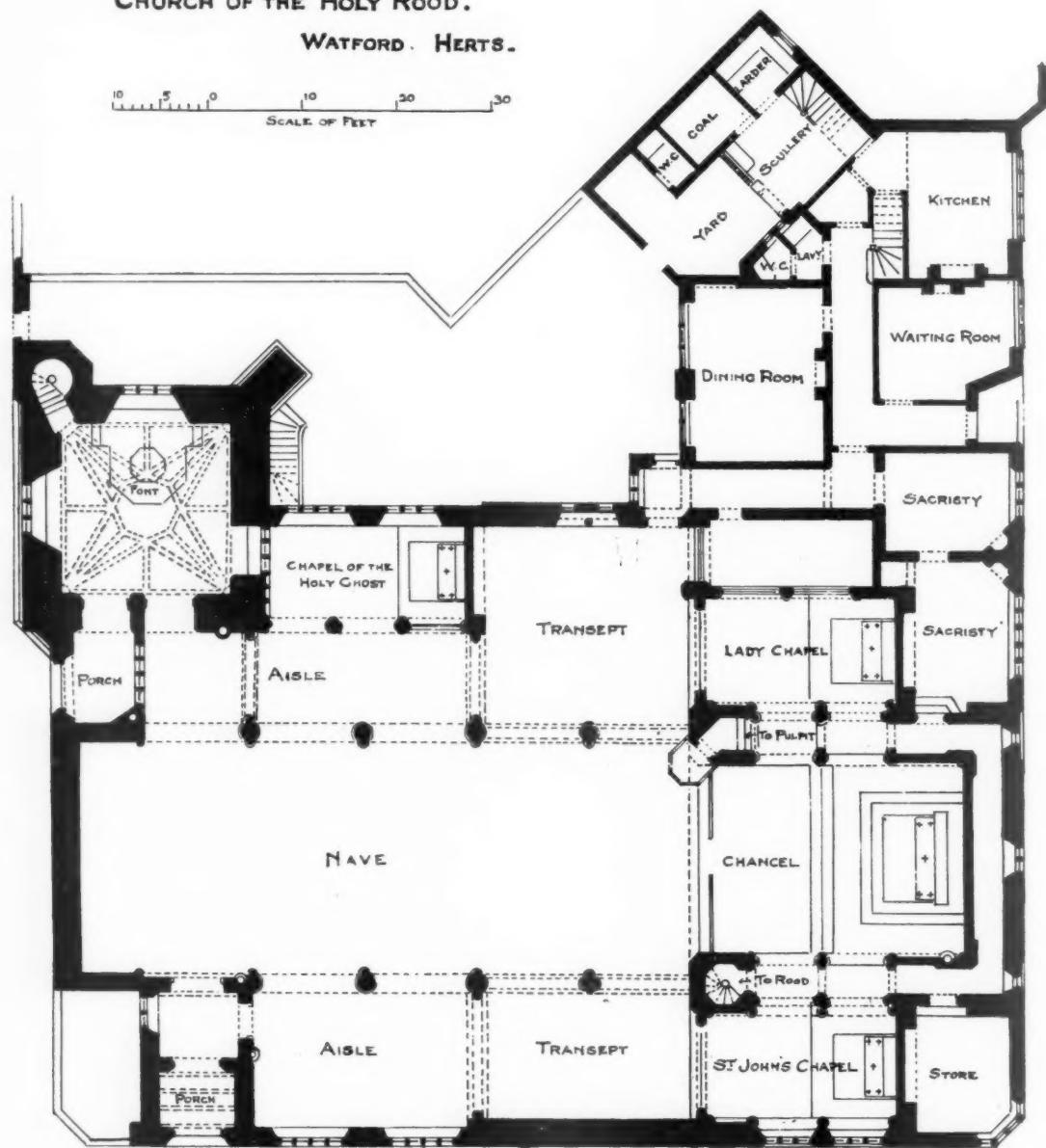
This refusal of the craftsman's invention acts injuriously on the worker; he concerns himself in consequence with perfecting his dexterity, and the sprouts of his humour and invention get frost-

nipped, or wither from atrophy. Neither Mr. Butterfield nor Mr. Bentley could leave any "school" to carry on their traditions, because neither of them permitted any growth in their work other than the growth in their own brains. All this apparatus of research, knowledge, experience and invention, together with the vast contributory contingent of labour, goes to the making of a crystal, not a plant—a crystal, brilliant, complex, many-sided it may be, but sterile; the residuum of the crucible, got by immense pains and at great heat by force of the ingredients, but without the agency, so to speak, of shaping hands. Such hands as were used might be called mechanical extensions of the official engine. This intense

personality being, notwithstanding its various throwbacks into the past, a creature of its own time, passes also with the time, so far as subordinate matters are concerned. The main conceptions endure. The great architectonic qualities of size, romance, reverence, mysticism, display, touch chords that have been vibrating since man began to build—their utterance is heartfelt, perennial, universal. The dramatic interior of the Westminster Cathedral shows this. In its present unfinished state, it is full of impressive majesty—of pious sentiment. The shadow of the solid domes brooding at that great height, the tempered light from the lifted cupola over the chancel, the patient arches, the twilight recesses,

#### CHURCH OF THE HOLY ROOD.

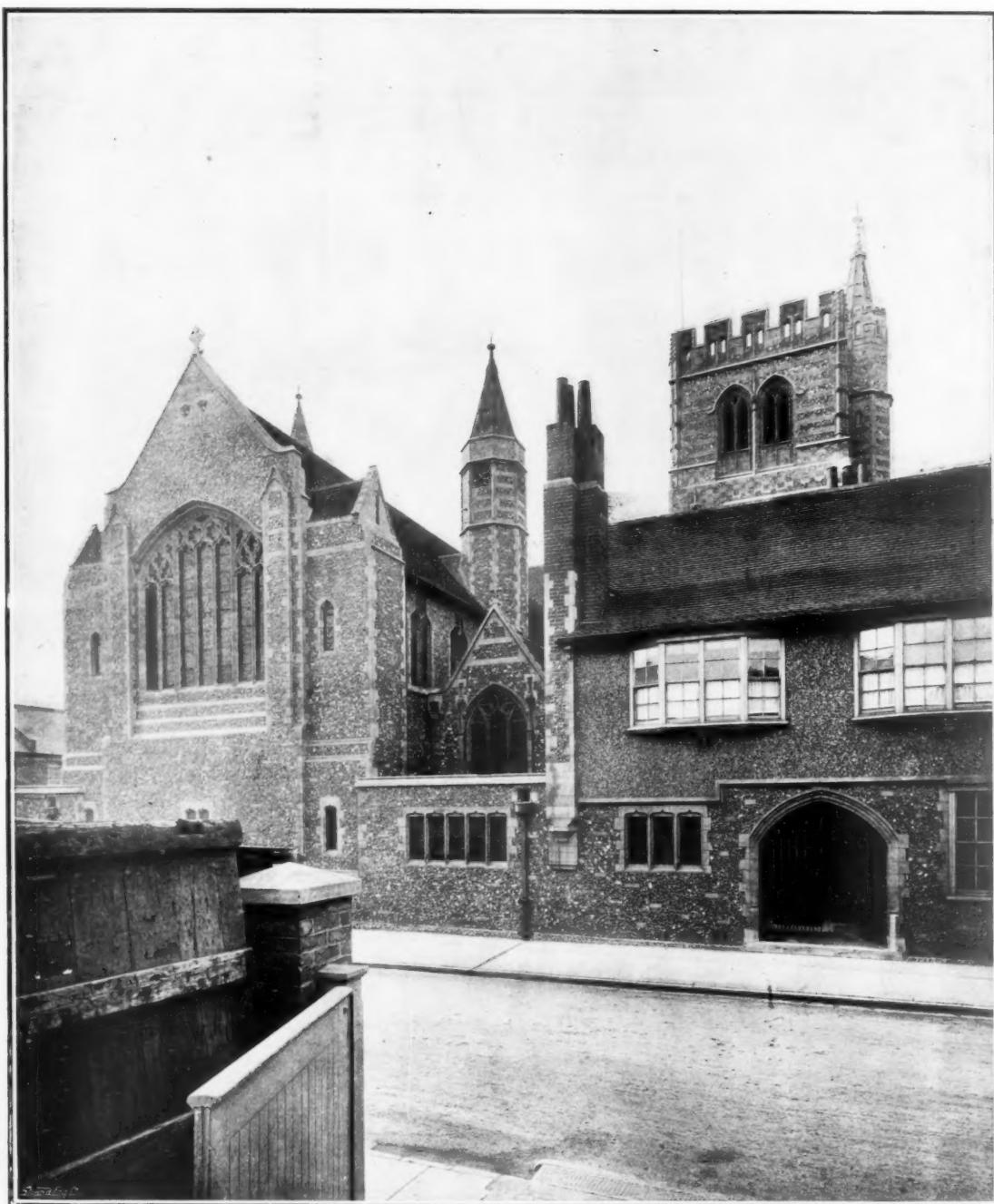
WATFORD. HERTS.





CHURCH OF THE HOLY ROOD, WATFORD.  
FROM THE NORTH-WEST.

*Photo : Wm. Coles.*



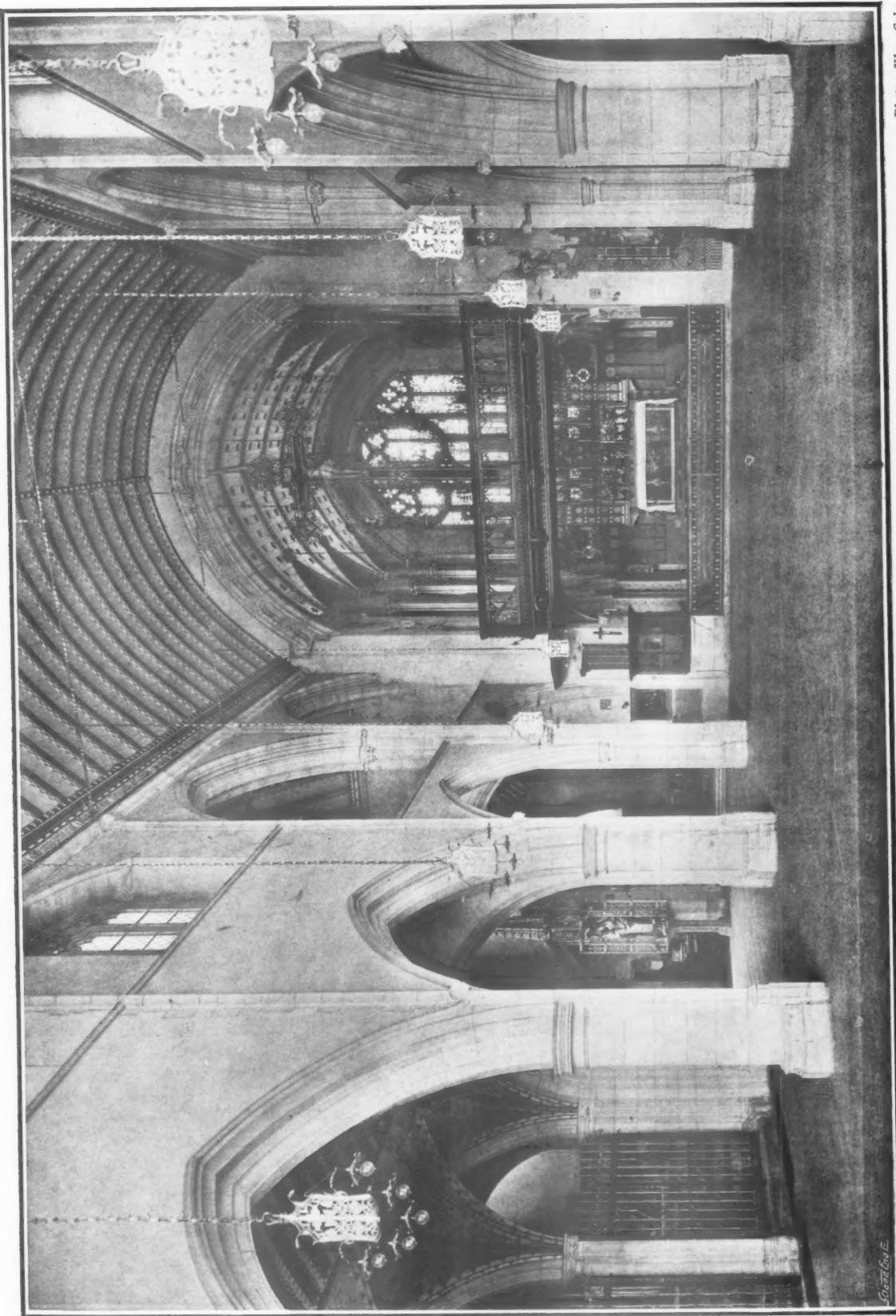
CHURCH OF THE HOLY ROOD, WATFORD.  
FROM THE SOUTH-EAST.

*Photo : Wm. Coles.*

these and the many other effects that impress the spectator on his entry, are architectonic ideas, independent of detail.

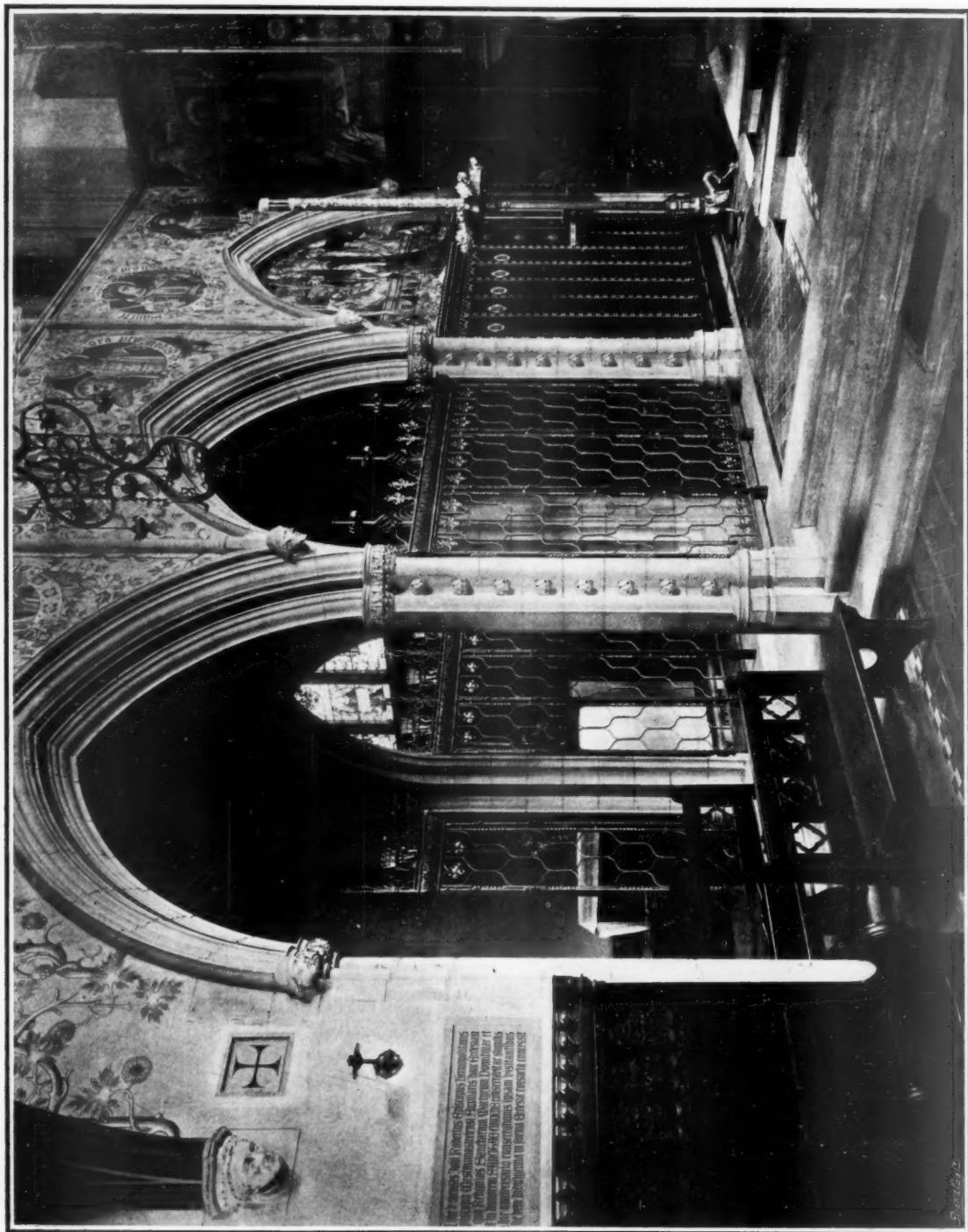
Here has been raised the shrine to the hopes and aspirations of the twentieth century, vast as befits our extended powers of construction, serious

as befits the sense of our position in the world, and, as it at present stands, simple and impressive from its absence of learned details, of that invested interest laboriously collected, rather than foaming spontaneously out of the pent-up enthusiasm of its devisers, carrying a living cry within it.



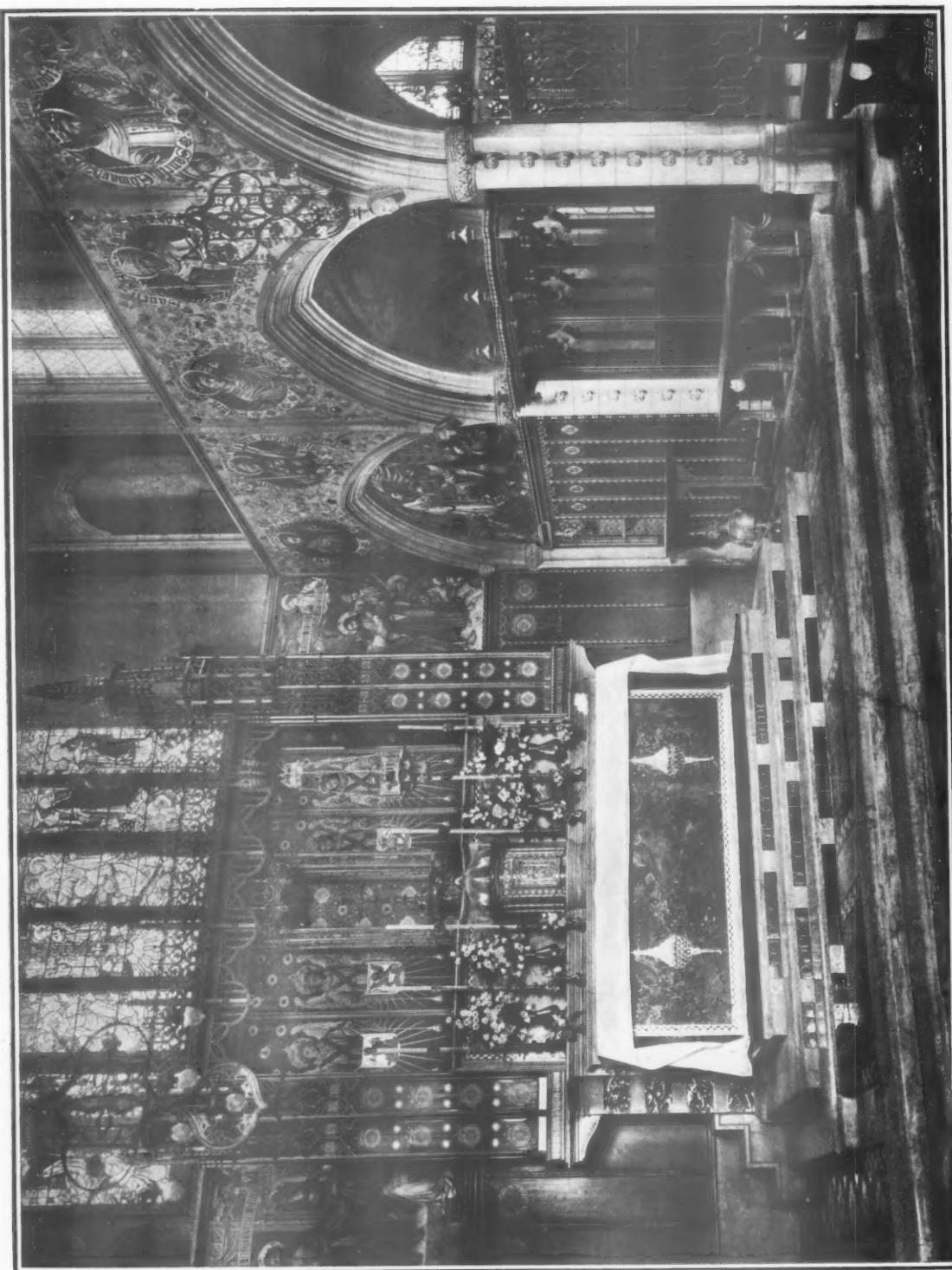
*Photo: Wm. Coles.*

INTERIOR OF THE CHURCH OF THE HOLY ROOD, WATFORD.



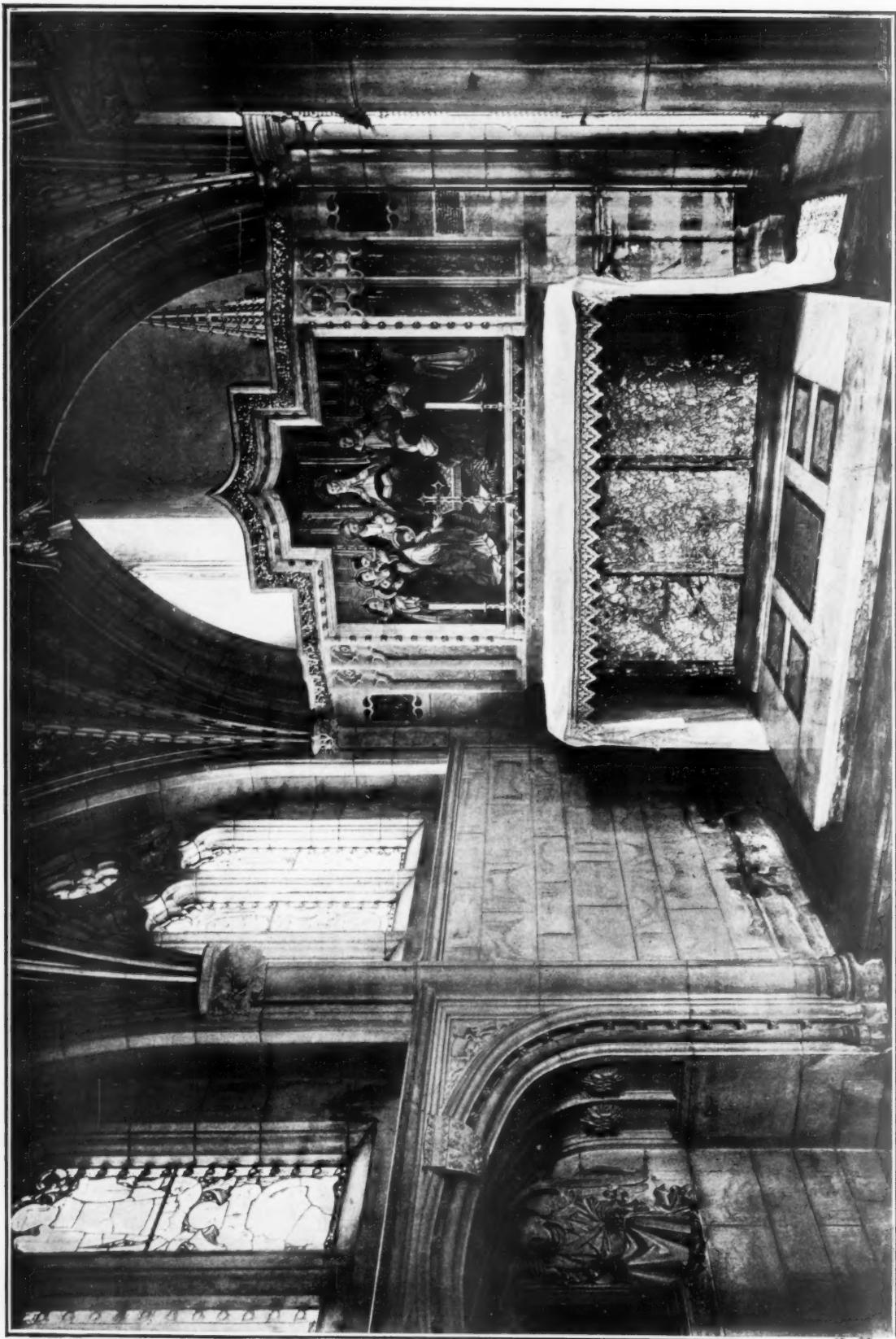
CHURCH OF THE HOLY ROOD, WATFORD. VIEW IN THE CHANCEL.

Photo : Wm. Gales.



CHURCH OF THE HOLY ROOD, WATFORD. VIEW OF THE HIGH ALTAR.

*Photo : Wm. Colts.*



CHURCH OF THE HOLY ROOD, WATFORD. VIEW OF SIDE CHAPEL [OF THE HOLY GHOST].

*Photo : Wm. Colts.*

# VAN EYCK'S DISCOVERY. BY C. J. HERRINGHAM.

THE following notes, dealing with the materials and methods of early oil-painting, should be read in connection with a paper in the *Architectural Review* for December, 1901, on the Secret of Van Eyck. I combat the author's view that the discovery was the purification of oil by washing, and that this is the sole secret of the beauty and permanence of Flemish painting, and hold to the varnish theory, namely, that a principal part of the secret lies in the incorporation of a very perfect varnish with the pigments.

I am going to quote the passage from Vasari, which was used formerly as the foundation of the doctrine that Van Eyck entirely invented oil painting. It is absolutely certain now that this is not true, since oil was used as a vehicle for colours at least some centuries before his time. Now we know this we can see that Vasari may have known it too. His words allow of this. It is rather amusing that Ernst Berger, the Munich writer on the technical art-tradition, finds in the passages of Vasari that assign the invention of oil and varnish painting to Van Eyck, a clinching proof that Van Eyck's discovery was a method of painting with an emulsion of yolk of egg blended with his improved oil or varnish. I have carefully read over several lengthy pages which unfold his argument in the hope of being able to find something tangible, but without success.

I am not sure whether Vasari really knew what happened in respect of the improvement in oil painting, or if he only wished to slur over his ignorance. Van Eyck, he says, had been stimulated to research by the splitting of a freshly varnished tempera panel placed in the sun to dry.

"He began to devise means for preparing a kind of varnish which should dry in the shade. . . Having made experiments with many things both pure and mixed together, he at last found that linseed-oil and nut-oil, among the many he had tested, were more drying than all the rest. These, therefore, boiled with other mixtures of his, made him the varnish which he, nay which all the painters of the world had long desired. Continuing his experiments with many other things, he saw that the inmixture of the colours with these kinds of oils gave them a very firm consistence which when dry was proof against wet; and moreover that the vehicle lit up the colours so powerfully that it gave a gloss of itself without varnish, and what appeared to him still more admirable was that it blended infinitely better than tempera."

There is certainly ambiguity. Strictly speaking, we should understand that the oils alone lit up the colours, but I think the meaning might not unfairly be taken to be that Van Eyck tested the oils everybody knew of, and then succeeded in purifying them more perfectly and in fortifying them with varnish, that is, he boiled resin with the oil

in such manner that it still retained some limpidity, unlike the *vernice liquida* which was best spread with the hand, because too viscous for the brush. These fortified oils or varnish he mixed with his colours as a painting medium.

There is, by the way, between the first and the second edition of Vasari, a curious difference in another short passage relating to Van Eyck's alchemical experiments; in the first he says Van Eyck distilled oils to make varnishes; in the second that he made the oils, as if Vasari had found out that Van Eyck was not supposed to have distilled oils, either the fixed or the essential.

In his materials for a history of oil-painting, Eastlake takes the view that the inmixture of the varnish with the colours must be really intended, looking at the passage from a commonsense, though not grammatical standpoint. He does not explain further, but I suppose he means what is obvious: viz., what was the use of a beautiful perfect varnish if the improved oil alone lit up the colours, giving a gloss and durability which dispensed with a final varnish. Vasari, in any case, made no clear or complete statement.

For further inquiry we must turn to the scanty notices in early documents—to chemical knowledge of the behaviour of oils and resin, and to the examination of the actual appearance of the surface of pictures. A quick glance at these scanty notices in chronological order will best put us in a position to judge of such indications as exist of the nature of the discovery, in other words, of the improvements which arose at the meeting point of the 14th and 15th centuries, and which at a considerably later period came southward from their northern birthplace.

Oil-painting, as far as we can tell, had a double origin—from the oils and balsams of wax encaustic (the wax probably being omitted when it was difficult to obtain) and from the varnishes, often tinted, which were at a very early period used to protect and give lustre to colours and gilding. Thick yellow varnishes for this purpose are described in the Lucca MS. of Byzantine or Græco-Roman origin in the writing of the end of the eighth century. These are composed of an enormous number of different resins boiled in a little oil and coloured yellow. Pliny and Vitruvius speak of the oil used with wax for protecting vermillion. Pliny knew that all resins will dissolve in oil, and he gives a tradition about a dark fluid used by Apelles, which being spread over pictures, it was as if talc were interposed between them and the spectator, toning the brightness of the colours and heightening the white (meaning the contrast caused by deepening the darks) and preserving the pictures from dirt.

Painting with natural resin (a liquid fir balsam

probably), is spoken of by Lucanus, a contemporary of Nero, as the best way of uniting the power and harmony of the oil with that of the colours. In the Lucca MS. the varnish was only for superficial application. The painting mediums were wax and fish glue. On walls fresco was apparently used.

At this time, the eighth century, the drying quality of certain oils was known, and bleaching oil by agitation during exposure to the sun was described by Dioscorides, A.D. 60—he also knew that poppy oil exposed to the sun deposits its mucilage as linseed oil does. Ætius, a physician of Mesopotamia, had described nut-oil (about 540 A.D.) as having "a special quality which is of advantage to gilding and encaustic. For it dries and keeps gilding and encaustic firm, and protects them for a long while." Galen, in the second century, knew that linseed and hempseed are in their nature drying. There is nothing, or next to nothing more to be quoted till the turn of the eleventh and twelfth centuries, when the German monk Theophilus gives definite instructions for preparing oil, painting pictures with it, and for making varnishes to varnish these pictures. The crudity of the process is surprising considering how much was known to the late classical writers. The oil, linseed, was merely extracted in a press with no sort of purification. It would be dark, thick, and full of non-drying mucilage and moisture. The need of improvement was imperative. No wonder the painting was tedious.

"And then take the colours which you wish to lay on, grinding them carefully with linseed-oil without water, and make tints for faces, and for draperies, as you made before with water, and beasts or birds or leaves in their various colours. All sorts of colours can be ground and laid upon woodwork with the same kind of oil in those things only which can be dried in the sun; because each time that you have laid on one colour you cannot superpose another upon it until the first has dried, which for figures is excessively long and tedious."

There is a group of monkish Latin MSS. of the twelfth and thirteenth centuries closely linked to the last-mentioned by Theophilus, and written in France and Normandy and England. In these painting with oil is often mentioned. They are the *Mappæ Clavicula*, Eraclius, St. Audemar, and one in the Sloane Collection, No. 1754. Eraclius tells us "How oil is made fit for tempering colours." The method was to boil it long and slowly with lime, skimming it, and then put white lead in and stand it in the sun for a month or more. "Then strain it and keep it and temper the colours with it." This is a process for purifying oil, and rendering it siccative and thick. We can understand that when nothing was mixed with pigments to make them "set up,"

a thick oil may have sometimes had its advantages, and when the old writer adds that, "the longer it remains in the sun the better it will be," the thickening perhaps did not seem to him a set-off against the gain in paleness and drying qualities obtained by exposure to the sun.

Our cathedral accounts and royal accounts for the fourteenth century and earlier are full of payments for oil, red varnish and white varnish; once we find "painters' oil," bought from the master painter of St. Stephen's Chapel about 1350, and once "white varnish of Bruges." A good many resins were used for varnish, certainly sandarac, mastic, and fir resin, or concrete turpentine. One of the two varnishes described by Theophilus is most likely amber.

I cannot find any account of further improvements until a German MS. of about the Van Eycks' date. Cennino, writing towards the end of the fourteenth century or rather later, knew of nothing better than what we find in Eraclius, or rather than the method of Dioscorides, for he only boiled or sun-dried the oil till wasted to half the original quantity. Painting with this oil is, he says, the method much practised by the Germans. It is noticeable, however, that he says varnish or *vernice liquida* is the strongest tempora.

But the Germans then, or a very little later, knew a good deal more of the matter. In the Strasburg MS., said by Passavant to be in the handwriting and language of the early fifteenth century, we find two novelties; a better way of purifying oil and rendering it siccative, and the incorporation of varnish with every tint. The original MS. was in the Strasburg library and was destroyed in the fire in 1870. Fortunately a copy had been made for Sir Charles Eastlake, which is in the National Gallery library. According to a recent German opinion it is of Alsatian authorship, and may possibly belong to the close of the fourteenth century. The writer was evidently copying out selected recipes from a little book that lay before him. Those referring to oil-painting form the principal source of information for the chapter on this subject in the much later book, "Kunst und Werkschul," whose author makes no allusion to the Flemish style.

"Now will I teach how to temper all colours with oil, better and more masterly than other painters, and first the oil is to be prepared that it may be light and clear and may dry quickly. . . . Take linseed, hemp, or old nut-oil as much as you will and put in old burnt white bone and the same quantity of pumice-stone, and let that boil up in the oil and throw the scum away from the oil, and take it off the fire and let it get quite cool, and if there is about a quart of the oil, put in about one ounce of white copperas (sulphate of zinc) and it will disperse in the oil and become quite clear and pale, and afterwards strain the oil through a clean cloth and put it four days in the sun, and the oil becomes thick and clear as

crystal, and this oil dries very soon, and makes all colours clear and glossy, and all painters do not know this oil, and from its goodness it is called *oleum preciousum*, and a half ounce of this is well worth a 'schilling.'

After a list of pigments the copyist continues,—

"Here note that these colours are to be well ground with the oil, and at the last with each colour three drops of varnish are to be ground, and then put each colour apart in a clean vessel . . . with all the above-mentioned colours one may grind a little white well-burnt bone, or a little white copperas as big as a bean, so that the colours may dry pleasantly and well."

It is to be noted that the rules for using the colours resemble the primitive missal painting style, pure colour being used as shade to a colour made paler by white.

Three varnishes are given all made with oil, one made from common "glas" resin, probably sandarac—one from mastic, and one from gloria or concrete turpentine, but there is a little confusion in the recipes and nothing is said about their use.

The process for purifying and drying the oil would be a very good one provided the oil had already shed most of its mucilage by washing or repose. The next notice of importance is towards the close of the fifteenth century, or rather earlier, in the Sloane MS. No. 345. A former possessor of the MS. mentions De Ketham, a physician, probably Flemish, as the author. He is known by medical publications. The language in this MS. is Flemish, but in one of his printed treatises he is styled Alemannus, a term, like Tedesco, often used for natives of the Low Countries.

We have again here the actual mixture of varnish with colours, and it is the amber varnish which has been widely conjectured to be an important factor in the Van Eyck method. There is further the addition of a balsam, not improbably another element in the secret.

"To make a composition (or substance) which serves for all colours.

"Take 1 lb. of linseed oil and boil it one hour, then take 4 oz of pulverized amber and put it into an earthen vessel, and pour on it as much of the aforesaid linseed oil as will cover it. Let it boil till the amber is melted; the solution must then be strained through a cloth and added to the first oil. Let it boil and try on a slate whether it is strong enough. If it is, add to it 1 lb. of resin (concrete turpentine), again suffering it to boil a little. Then take it off and it is ready."

A medical writer of the sixteenth century speaking of amber, says that when it is dissolved in oil it forms the vernix of the Germans, other ingredients being added. Concrete, *i.e.* Venice turpentine, is very helpful in the solution of amber, always a difficulty, as it discolours in the great heat necessary with only oil.

De Mayerne, physician to Charles I. and friend of Rubens and Vandyck, records much that is interesting about this continuation of the Flemish

tradition, and not infrequently mentions the directions of painters that varnishes were to be mixed on the palette with the colours. He notes as obtained from a German, an amber varnish made with rectified spirits of wine and spike oil; also thick Venice amber oil, of which he says: "This oil mixed on the palette with the colours prevents them from sinking in, and makes them translucent like glass, and exceedingly brilliant."

Armenini, Bisagno, Baldinucci, Vasari and De Piles, the three latter especially, recommend inmixtures of varnish as preferable to varnishing the picture. This does not exhaust the list.

To return to the oil and its purification. No directions for freeing it from mucilage by washing are known as old as the time of Van Eyck, but it was the later Flemish method, and is now considered undoubtedly the best, and is likely to have been part of the "secret," because a washed oil becomes so exceedingly limpid, and needs little further treatment to be admirably siccative. It would, I believe, permit of the crisp minute work of the school without the use of an essential oil, for which there is no positive evidence. Of this, however, it is difficult to feel complete conviction.

Naphtha or some other essential oil may possibly have been used sparingly. In attempting to copy Van Eyck's technique I found it possible to use essential oils without spoiling the gloss.

A recipe for washing oil from the convent of the Gesuati at Florence (Perugino's friends) may be of the fifteenth century. It is the usual shaking together of oil and water seven or eight times—the water with the mucilage being removed each time. At the end is the remark, "whenever you find oil mentioned, this purified oil is meant." Sand and salt can be put in the water to help the separation of the mucilage. The earliest description of the process seems to be a communication to De Mayerne from Mytens, painter to Charles I. before the arrival of Vandyck, for preparing a "colourless and thin linseed oil."

"Mix the oil with water and white sand in a glass bottle; shake it three or four times a day till the contents appear like milk and leave it constantly exposed to the sun in the month of March. In a month the oil will be as clear as water: and every time (after the vessel is shaken) the warmth of the sun separating the oil from the water, purifies it, and at last bleaches it perfectly."

It is impossible to mention all the slight variations and improvements gradually introduced. I chose what seemed the best way, and tried it myself. I got a quart of raw linseed oil, which looked like muddy treacle. I put it into a large bottle with an opening top and bottom, and added about three pints of water, shaking it well till it was all froth. Then it settled for a month in a warm place. I drew off the water and mucilage, and

repeated the operation eight times. The bottle was kept well corked. The oil was finally exposed to light for a few days in an east window. Used for painting it dried in eight hours quite glossy. It was exceedingly thin and very pale. Leonardo da Vinci's pictures are one proof among others, however, that all oils darken, even nut-oil most carefully prepared. Any way of hastening the complete solidification of the oil throughout tends to preserve its paleness. The solidification is caused by oxygenation. This is promoted by sun and firewarmth, but metallic compounds containing oxygen hasten the process. They are called driers. Lead oxides are and have been much used, but there is great risk with them of darkening and disintegrating the pigments. Verdigris, a salt of copper is the very fiend incarnate. An oxide of manganese is most recommended by modern authorities, but they find no fault with sulphate of zinc (also containing easily-liberated oxygen) alias white copperas, except that it is not very powerful—and this after its first appearance in the Strasburg MS. seems to have been the best liked in the later Flemish school. The liberated zinc simply falls to the bottom of the oil and is quite harmless. The Strasburg MS. makes one incline to the opinion that a siccative oil was ground with the pigments. If these were freshly ground nearly every day and three drops of varnish were added to the small daily ration of each colour required for that highly-finished painting, the proportion of varnish must have been very large.

A siccative oil is on the way to become a sort of resin, and is then fit for preparing varnish. What were the varnishes? All evidence is in favour of various varnishes having been used for various purposes and the surface appearance of pictures confirms this. The resins were amber, sandarac, mastic, the balsams, and perhaps copal. Amber and copal are the two hardest resins known and most difficult of solution, but amber was a northern product and easily procurable. Copal comes from Africa. There is little if any evidence of its use. But in some pictures, especially Van Eyck's, there is considerable uniformity of surface, and the question is suggested whether here we may not have a compound varnish combining the merits of several resins. Copal and amber are hard, durable, glossy, protecting resins which do not darken very seriously; sandarac is not so hard or durable, and darkens seriously; mastic is pale and bright but not durable; the balsams have gone out of use.

To begin with, which is best, amber or copal? Sheldrake made some interesting experiments on amber varnish a century ago. Whether made with linseed, nut or poppy oil, tints mixed with it were more brilliant than mixed with the best drying oils, and shut up in a drawer for several

years lost nothing of their original brilliancy—with only oil the same colours in the same conditions could hardly be recognized. They were, when thoroughly dried, proof against strong sun and stove heat, and resisted the action of spirits of wine and turpentine united. They dried as well in damp as in dry weather, and with no skin on the surface. They were not liable to crack, and were of a flinty hardness. So much for the merits of amber. De Mayerne observes that the amber varnish used by Gentileschi did not spoil white. Dr. Laurie has made experiments which confirm Sheldrake's, besides making some remarkable discoveries about the forgotten balsams—formerly represented by Venice turpentine and olio de abezzo—now principally by Canada balsam. The discovery is that being damp-proof they protect fugitive colours which usually do not fade where damp is entirely excluded.

Eastlake refers to the use of white varnishes for protection of light fugitive colours, and sees nothing to choose between a varnish composed of mastic with a little nut-oil, or of fir-resin with a little nut-oil—one part oil to two or three of resin—the colours to be protected from the damp being verdigris, the yellow lakes, and the blue carbonate of copper. But Mr. Laurie's experiments show that the balsams or fir resins possess this power far beyond all other resins. Do not forget the gloriat or fir resin varnish in the Strasburg MS. nor De Ketham's compounded amber and fir resin. Mr. Laurie's problem was:—What has protected the crimson drapery, green dress, and the oranges of Van Eyck's "Arnolfini"—the pigments being almost certainly crimson lake, verdigris and orpiment?

In experiment all varieties of raw, washed, or drying oil admitted moisture, though very long drying in a desiccator made the oil resist moisture better. Similar experiments with fugitive colours protected by resins dissolved in completely evaporating mediums, gave the result that out of colophony, mastic, Sierra Leone copal and amber, amber alone resisted moisture for weeks—the others only for a few hours. But fine samples of amber and copal varnish mixed with pure drying oil admitted moisture. At this stage he noticed the balsam ingredient of the old recipes, and he found that it can almost prevent change in verdigris exposed to sulphuretted hydrogen, which in oil goes black in a few hours; can separate cadmium and emerald green, which would attack one another and go black if only divided by a layer of dried oil, and can even preserve carmine in sunlight save just the freshness of its purple bloom. Venice turpentine on the trial canvas of Sir Joshua Reynolds, in the possession of the Royal Academy, has kept gamboge from fading. The

dab labelled gamboge in oil has quite faded. This resin is more damp-proof than the usual modern substitute Canada balsam. The balsams need to be dried by some method or another to be fit for varnish. Eastlake notes an experiment by an Italian of last century which resulted in a very favourable testimonial to the qualities of olio de abezzo, used as a varnish, in maintaining the freshness and moist look of oil painting, and indeed restoring this freshness to old arid pictures.

There is a difference between the early and late Van Eycks. More of the early are now attributed to Hubert—these show a thicker glassier varnish less tractable in the brush. The later, which are certainly John Van Eyck's, are painted with a thinner, less lustrous, and absolutely manageable medium. The cracks are finer, but they spread a closer reticulation over the surface of the picture. The nature of cracks should reveal the nature of the material in which they occur—but it is by no means an easy study. On the whole I think that mastic mixed with oil paint fissures with gaping edges; that the balsams split and the edges of the paint tend to turn up when they are used in quantity. Amber and copal make very fine cracks with a rectangular reticulation—but very often this is complicated by cracks in the ground and shrinkage in the panel. Sandarac cracks, according to Eastlake, are abraded at the edges and in time become corroded.

About the process of painting and its stages there is little written evidence. The grounds of the early Flemings were nearly always undoubtedly the same gesso on panels that the tempera painters used. There may sometimes have been a tempera beginning, but I am inclined to think that often or generally there was only a warm water-colour monochrome on the gesso which was next made non-absorbent, perhaps by size, perhaps by varnish, and on this the darks were put in all over with a rich blackish brown colour in a very thick medium—a strong dark varnish, I should say. Then the picture was painted as nearly right as possible in oil pigments tempered with varnish, some atmospheric toning and sharp detail forming the final stage. The thick dark shadow standing up in ridges is a very constant feature of early oil painting. In the "Arnolfini" a fine shallow reticulation of cracks passes over this shadow work throughout the picture, which has suggested to me the possibility of a thin layer of varnish having been passed entirely over the monochrome into which the colour was painted. I am sure there is a transparent warm brownish colour underneath the solid painting, and it would of course form the drawing and shading of the subject. Here and there, however, I admit, a partial underpainting with tempera

suggests itself, and it may be that occasionally a complete dead-colouring in tempera of some sort formed the basis of a final, complete varnish picture.

I have begun copying the "Arnolfini," using amber oil varnish compounded with mastic varnish and purified Canada balsam all thoroughly warmed together in an incubating oven. This recipe was given me by a picture restorer who said that he and his father had used it all their lives. I tried variations of the quantities he gave. I was interrupted and did not keep exact notes, but I think I found that rather less than half of Schonfeld's oil amber varnish and the rest equally spirit mastic and Canada balsam dissolved in a little turpentine worked well without flowing. By grinding powder colours in good drying-oil and this varnish in varying proportions I think it is possible to get the texture and lustrous effects of the original. The smallest touch will keep its place or the slight flow can be imitated which is wanted in some parts. I am convinced that the technique of the picture could not be imitated without using varnish.

In searching for the reasons of the excellence and durability of early oil pictures, especially Flemish, we must not forget that tempera methods would not at once be laid aside, and one of these was the almost daily fresh preparation of the colours, and this practice was no doubt continued for some time after the general prevalence of oil-painting, the oil and varnish being consequently used in as perfect condition as possible.

Now-a-days the oil may be too new or too old, impure or adulterated. Varnishes are by no means perfect either, and often won't dry, and what shall we say of the oil in the tubes, which even if it should be pure and good to begin with soon acidifies and loses its drying property. Look at the dirty old tubes in most studios—the oil they contain is neither very fresh nor kept in well-corked bottles. Aluminous earth mixed with the pigments to increase their stiffness and body is also deleterious. Grounds containing white lead are universally condemned as unceasingly a cause of darkening, but are universally used. The Fleming used the harmless gesso—separating even it from the painting by a film of size or possibly varnish, and the more absorbent ground thus produced greatly assisted the brilliance of the painting, which of course, however, largely depends on the unerring *alla prima* painting—every part of every stage telling in the final effect. Other smaller matters contribute to the perfection of the effect, as the fine grinding of the pigments; but the sum of the matter is good oil, good varnish, good grounds, and method in the painting.



*Photo : E. Darrie.*

CHARTERHOUSE FROM THE SQUARE.

# C H A R T E R H O U S E . I.—T H E M O N A S T E R Y . B Y B A S I L C H A M P N E Y S .

PARADOXICAL as the statement may appear, it is certain that many works of art and monuments of antiquity fail to attract attention on account of their proximity and readiness of access. "A prophet is not without honour save in his own country;" and London, which is to most a mere workshop, seldom presents itself to the ordinary mind as a profitable field of antiquarian research: many, who are prepared to spend time and money in visiting Continental antiquities, are apt to ignore those that are passed in the daily walk. It is typical of modern tendencies that men should divide their lives and interests into "water-tight compartments," identifying times and localities with money-making on the one hand, and with recreation and culture on the other: no less characteristic of humanity in general is it that it should procrastinate, so that what may be seen on any day should never be seen at all.

At any rate, whatever the reason may be, it is certain that the remains of Old Charterhouse are *terra incognita* to the large majority of the citizens of London, even to the minority who are capable of, and elsewhere show an interest in the monuments of the past; and while many have a vague idea that the Charterhouse is a foundation of some antiquity, associated with the education of youth and the support of decayed gentlemen, among whom Thackeray's "Colonel Newcome" rightly takes precedence of mere historical personages, few are aware that within the precincts may be found considerable remains of an ancient fourteenth-century monastery, of two subsequent periods of conventional building, and of the domestic architecture, in its most accomplished type, of the time of Elizabeth and James I.

The last quarter of the century now concluded showed a marked desire to call attention to both the antiquarian and artistic interest which London, in spite or in virtue of its primary aspect of a gigantic workshop, possesses to the discerning eye. Even the fog, even the engineering monstrosities of the railway lines, have been pressed into the service of art, not unsuccessfully; and though the interest of the present subject lies beyond the sphere of aerial perspective and colour, though it is almost exclusively a matter of archaeology and architecture, of form and proportion, to which photography can do ample justice, still, some special value will be found in its associations with the busiest part of the great city, in the sudden transition from the scene of turmoil and competition to the old-world quiet

of the ancient precincts, which have preserved through various transformations a solemnity, dignity, and repose characteristic of the great cemetery, of the ascetic monastery, of the home of youthful study, and of old age peacefully waiting for death.

I may record, too, as an additional source of interest, that no more than sixteen years ago the old buildings narrowly escaped the incursion of the house-breaker. With a view to increasing the funds available for the pensioners, a Bill was introduced in Parliament (in 1886) for cutting a road through a portion of the precincts, in order to convert some part of the hospital premises into building land. The scheme would at once have involved the destruction of "Wash-house Court," and eventually, no doubt, of most of the ancient buildings. This proposal was, fortunately, defeated—strange to relate, by the votes of the Radical party. Similarly Sir John Lubbock's Bill for the protection of ancient monuments was carried by Liberal votes against Conservative (?) opposition—an anomaly which suggests on the part of the Tories a somewhat obsolete idea of the rights of property. May we credit them with the view that, even if the time is passed when a man has an indefeasible right to beat his own wife, he must still be allowed to eat his own monument? The danger, however, is passed, and is scarcely likely to recur. Now that few antiquities have escaped the hand of the speculator and the ignorant restorer, public opinion seems likely to prove tenacious of the remnant.

In former days the transition from the noise and traffic of the City to the quiet of the precincts was less abrupt than it is at the present moment. Charterhouse Square, originally a part of the land acquired by the founders of the monastery, was so isolated from the nearest thoroughfare as to form, as it were, an outwork to the Charterhouse itself; and the Governors still retained their rights over it by exacting a nominal payment from the tenants of the houses opening on the square for permission to leave them by their front doors. At present an important road runs through the square on the south side, and its character has thereby been considerably modified.

It is, however, time to turn to the actual history of this ancient foundation, and in pursuance of a subject which, to an *alumnus*, must necessarily suggest countless irrelevancies of memory and association, I shall endeavour to limit myself strictly to the archaeological and architectural history of the fabric.

In August, 1348, the terrible plague known as the "Black Death" made its appearance in England. "So great," we are told, "was the mortality, that there remained scarcely enough

living to bury the dead." The churchyards of London were quickly filled, and thousands were buried in common graves outside the town. Ralph Stratford, the Bishop of London, wishing to secure consecrated ground for the bodies of the dead and sacred offices for their souls, purchased a piece of land at West Smithfield, just outside the City walls, on which he built a mortuary chapel, and called the place Pardon Churchyard and Chapel. This, a plot of three acres, originally known as "No Man's Land," is to be identified with the area of Charterhouse Square. Owing to the continuance of the plague, this ground proved insufficient; and Sir Walter de Manny purchased from the Master and Brethren of St. Bartholomew's Spital thirteen acres of contiguous land, which was consecrated as an addition to Pardon Churchyard. Stow, in his "Survey of London," mentions a stone cross which stood in this cemetery, fixes the date of the consecration—1349—and records that fifty thousand dead bodies were buried therein. Sir Walter also built a chapel, in his own portion of the cemetery, in honour of God and of the Annunciation of the Blessed Virgin Mary. This additional land, previously known as the Spittle Croft, was now called "New Church Hawe," or the close of the New Church. Of the earlier of these mortuary chapels no trace or further record remains, but it seems reasonable to suppose that the monastery chapel is, in respect of position and probably of some portions of the fabric, identical with the later of these.

Michael de Northberg had in 1355 succeeded Bishop Stratford in the See of London. He died in 1361, and by his will bequeathed a sum of two thousand pounds, together with certain sacred vessels, etc., and a plot of land, for the founding, building, and endowing of a Carthusian monastery. The plot of land had, as the will states, been purchased from Sir Walter de Manny; who, after the bishop's death, took up and completed the scheme, adding to the precincts a further plot of land, known as Hervey's Croft, which he purchased from the adjoining Priory of St. John of Jerusalem. By this addition the total area was raised to twenty acres.

Sir Walter de Manny has figured in history as the founder of the London Charterhouse. As it fell to his lot to complete the scheme this is not unnatural. It would seem, however, that the Bishop has an almost equal claim to the credit due, and the two must be regarded as joint founders. What precisely were their mutual relations in the transaction must remain matter for conjecture. It is known that de Manny had intended to endow a college of twelve "Capellani." Probably he had, during the Bishop's life, been



FRAGMENT OF SIR WALTER  
DE MANNY'S TOMB.

*Photo: E. Dockree.*

diverted from this scheme into co-operation with that of de Northberg. The term "Double Monastery," applied to the Charterhouse, seems to refer to the number of the monks, of whom there were twenty-four, rather than to indicate the joint foundation of two benefactors.

In 1370 the Carthusian Order took possession of the monastery, and in the following year the royal licence for the foundation was granted. At the end of 1372 Sir Walter de Manny died, and was buried in the chapel in the centre of the choir. It was not till some seven or eight years ago that a fragment of his tomb was discovered—built into the wall of a house in the precincts; but as this fortunately contains his arms, it can be identified with certainty as a portion of the monument mentioned in the records.

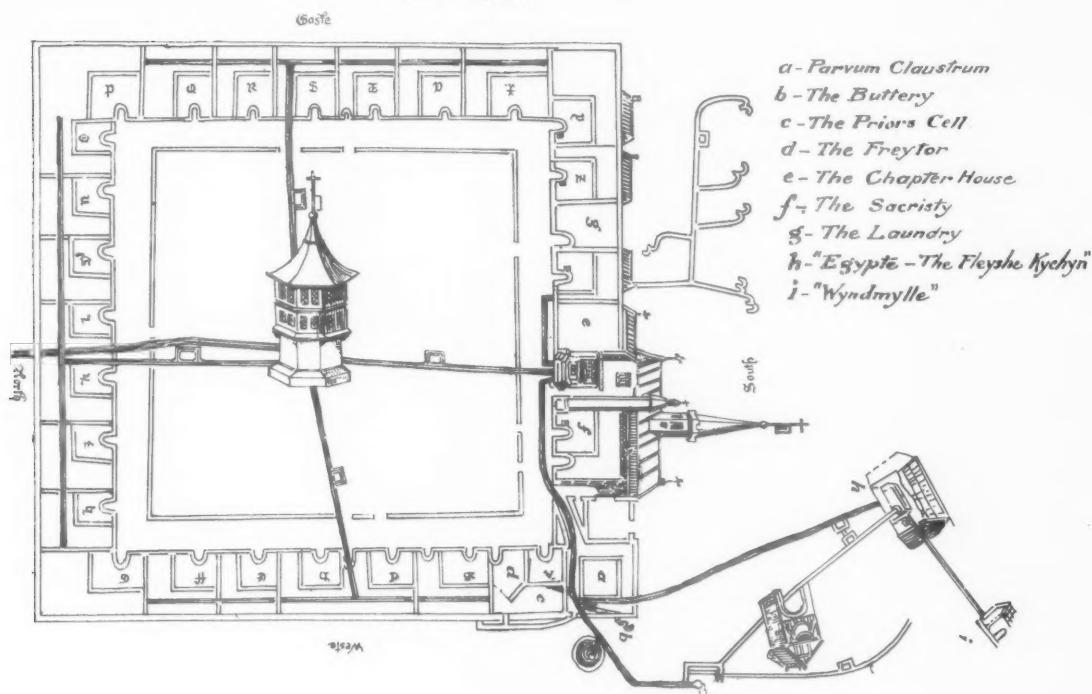
Of the conformation and, to some extent, the character of the monastic buildings, important indications are given in the accompanying plan. Its date is presumably about 1500, and though its primary object is to show the conduit and water supply, its accuracy in other respects is established by conformity with such of the present buildings as date back to the fourteenth century. This, together with some knowledge of the Carthusian Rule—a rule which has remained essentially the same to the present day—enables us to picture with tolerable completeness the original arrangement of the monastery. The drawing is of a kind not uncommon in past ages, which combines plan and elevation. The proportions are no doubt in some respects open to question: the central conduit tower would, if they were insisted on for accuracy, rise, as I reckon, to a height of some 150 feet. The arrangement is that of a

large cloister, giving access to twenty-four cells, figured by the letters of the alphabet, of which, however, there are but twenty-three, j, u, and w not being comprised in the black-letter type. The twenty-fourth cell is not identified by a letter. From the same cloister opens on the west side the "freytor" or refectory, and on the south side the laundry, the chapter house, with the "lavabo" adjoining it, the sacristy, and the chapel. At the south-west angle is the *parvum claustrum*; further to the south-west the monastery gate, in the position of the present entrance gateway, and

it runs counter to ascertained facts. At this point a comparison with the plan of the buildings, ancient and modern, drawn up by the late Mr. Herbert Carpenter, may be of service. It may be noted, however, that Mr. Carpenter has coloured in one tint all the "monastic" work. I am convinced that there were three distinct periods of building, the first including all that is shown on the ancient plan; the second not many years, if at all, prior to the end of the fifteenth century; the third of the time of the last prior, Houghton (1531-1535). It will be noticed

*Plan of the Monastery of the Carthusians London*

Circa AD 1500



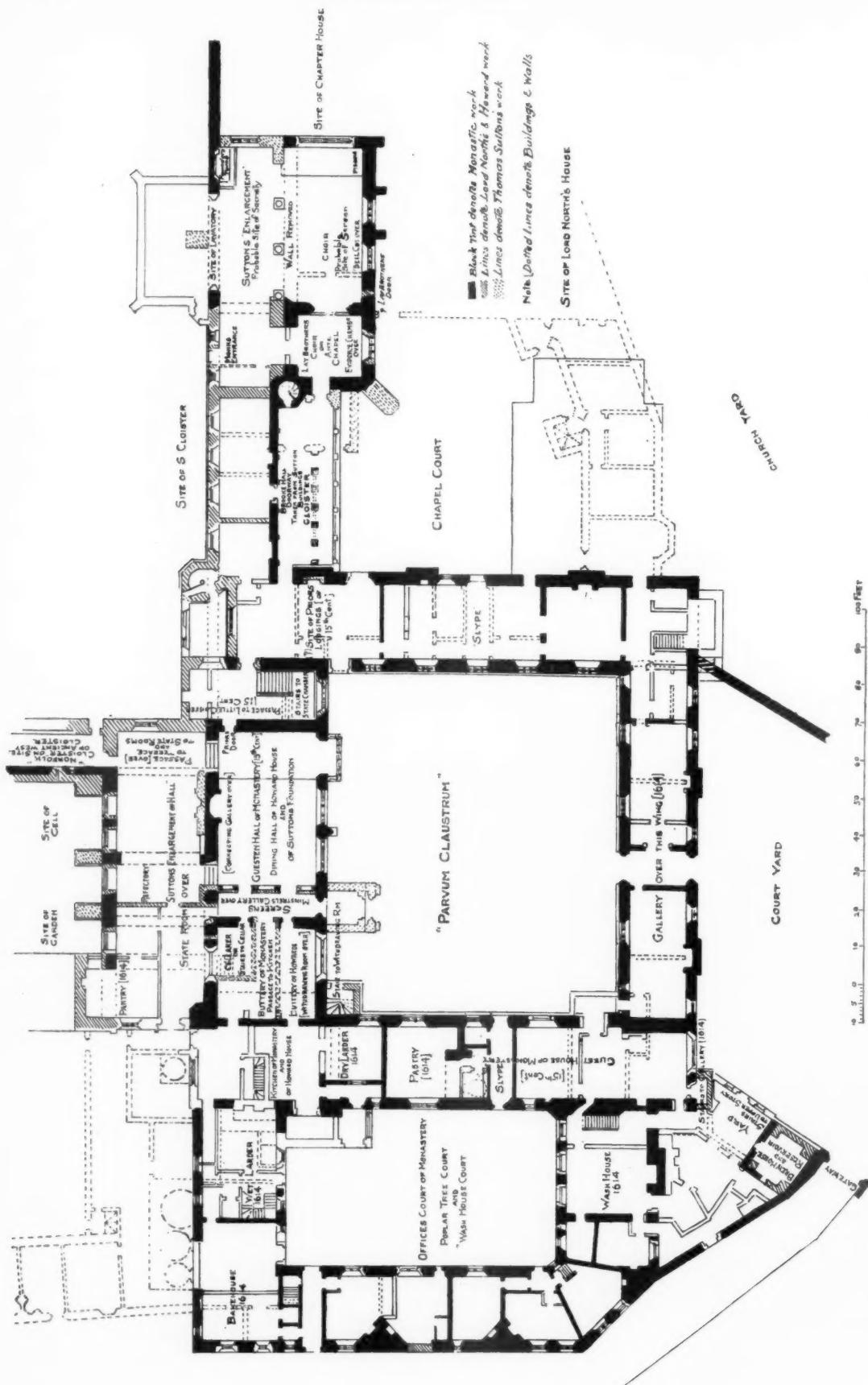
beyond these, standing on what is now the square, "Egypte, the fleysche kychyn," and the "wyndmyle," these latter being without the precincts.\*

The original purpose of this plan is, as I have stated, to record the arrangements for the supply of water to the monastery. The question for us is, how far it may be trusted to give accurate information as to the lines of the original buildings. Some critics have felt justified in discounting its authority on this point, though in my own opinion it fully deserves to be maintained, unless

that the ancient plan shows no buildings in the position of the existing outer court to the south-west; also that the *parvum claustrum* is shown to project southward but a trifle beyond the south wall of the chapel. In the later plan the corresponding feature is some 90 feet southward of the same, undoubtedly the original, wall of the chapel. Whatever margin of inaccuracy may be claimed for the earlier plan, it can scarcely be sufficient to cover this discrepancy. It must be noted, too, that cell "A," the prior's cell, stands contiguous to this *parvum claustrum*, and that the freytor intervenes between cells "A" and "B." Supposing that the original *parvum claustrum* was the domain of the *Conversi*, or "lay-brothers," this arrangement would be explained. The prior

\* The legends on this plan were not to be reproduced on so small a scale. The drawing is, therefore, not in this respect a fac-simile.

## *Charterhouse.*



MR. CARPENTER'S PLAN OF CHARTERHOUSE.

FROM "THE LONDON CHARTERHOUSE," BY DOM LAWRENCE HENDRIK.

would be in a position to supervise both monks and *Conversi*, who again are not far removed from the freytor, to which, as the plan seems to indicate, they are provided with a service passage. It must be borne in mind that the lay-brothers were an essential element in a Carthusian monastery : on the other hand, provision for the entertainment of strangers might well be left for later development.

I must, however, leave this question for a moment to call attention to some other points in relation to this plan. First, it may be noted that the plans of the several "cells" show an inner sub-division. What was the conformation of these must be deduced from Carthusian usage, as seen elsewhere. Each so-called "cell" contained an ambulatory, a little garden, and a cottage of four small rooms—on the ground level the workshops, above an ante-room, where stood a statue of Our Lady, and the "cell" proper, which served as bedroom, study, and refectory : for the brothers usually took their meals in solitude, meeting only on special occasions in the freytor, while their food (they were the strictest vegetarians) was served by the *Conversi* through a hatch opening from the cloister. Over each door

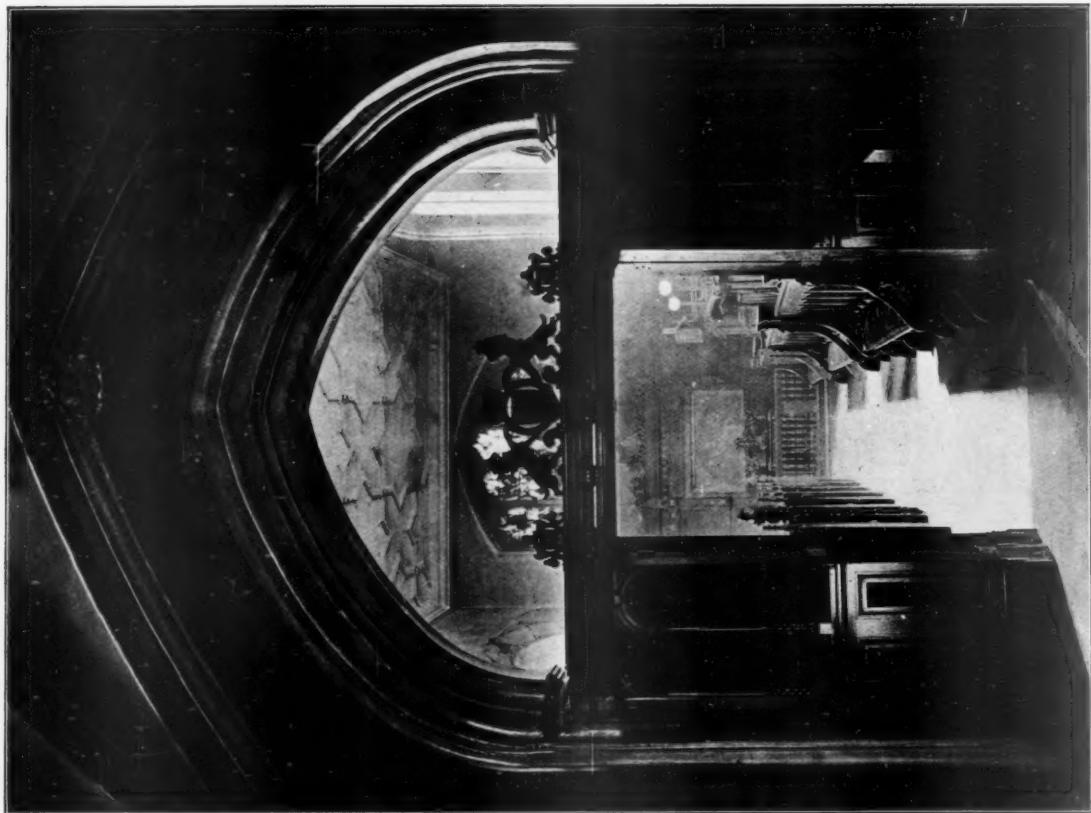
was painted the distinguishing letter, corresponding, no doubt, with those given on the ancient plan. If the reader refers to this, he will notice that the entrance doorways of all the cells are shown in elevation. On the south side alone are shown both door and hatch. The omission of the latter features on all but the south side can be due only to inadvertence, or to the incompleteness of the drawing. The hatches\* shown on the accompanying photograph are towards the southern end of the western cloister ; a further hatch may be identified further to the north in the same wall ; the only other traceable in recent years was in the eastern boundary wall of the present area, which boundary must have been the inner wall of the cloister. Why a similar hatch should have been shown in the "sacriste" is a puzzle. Possibly this too is an inadvertence—an error of commission as the

\* To the left of the doorway is a hatch at a lower level than that to the right. The purpose of this is conjectural. I would suggest that it may have been used for putting out refuse, as the other was for introducing provisions, etc. If I am right in identifying this doorway as that of the freytor, as measurements taken on the spot seem to indicate, its presence seems to be adequately accounted for.

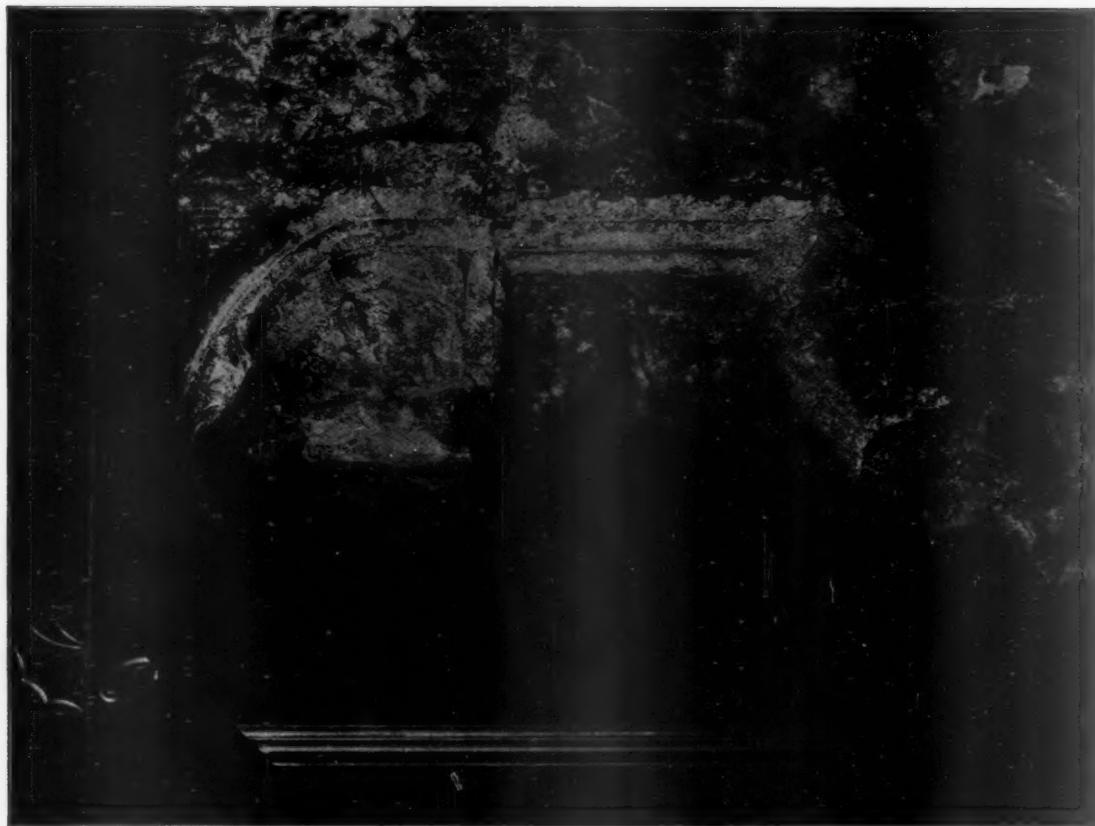


ENTRANCE AND HATCHES TO "CELL," OR MORE PROBABLY TO "FREYTOR."

*Photo: E. Dockree.*

*Charterhouse.*

VIEW OF CHAPEL FROM ANTE-CHAPEL.

*Photos : E. Dickey.*

PISCINA IN EAST WALL OF CHAPEL.

other of omission; or we may conjecture that it was to enable the lay-brothers to supply the sacristy without entering it; or, again, the area thus assigned may have included a cell for the sacristan. For the rest, the area between the outer cloister walls must have been a square of about 300 feet, and each cell rather more than 50 feet square. The area of the eastern cells, beyond the inner wall of the cloister, must at some time or other have been alienated.\* The hill, which in my school days divided "upper" from "under green," and on which stood the school building, must have been the site of the northern cloister and cells, and the rise of the ground was in all probability formed by their débris. Of this earlier portion of the monastery there remain the following recognisable features: the lower portions of the south and east walls of the chapel, the latter containing the mutilated remains of the fourteenth century *piscina*; the fragment of Sir Walter de Manny's tomb, and a few traces of the doorways and hatches of the monastic cells.

The date of this map is given as *circa A.D. 1500*. If this is correct, and if, as I hold, the plan shows all the important buildings of the original monastery, all that was erected subsequently to this

date and before the dissolution must have been of the first 35 years of the sixteenth century. There are, indeed, one or two obvious omissions in the plan. The residences of the *Conversi* are not indicated at all; the buttery and kitchen merely by the words "botery" and "cok." The latter may have been mere "lean-to" structures to the west of the small cloister; the former may be assigned conjecturally to the courtyard on its eastern side.\* It is clear that the early sixteenth century saw an important enlargement of the monastery, and we must endeavour, by such indications as are at hand, to show what form these actually took. I may notice, however, in confirmation of my theory, that many benefactions to the monastery of the preceding century are recorded in the annals. Also that in the ante-chapel the date 1512 is still to be seen; while the brickwork of the "washhouse," or "poplar tree," court exhibits a large "I. H." The date given above would assign the earlier additions to the priorate of Tynbygh, the subject of one of the most stupendous miracles recorded even in mediæval legends: the letters would fix the work in which it occurs to that of Houghton, the last prior, martyred under the visitation of Thomas Cromwell. Tynbygh was prior from 1500 to

\* There is a probability that such alienation happened during the tenure of Lord North.

\* Or the *Conversi* may have occupied a dormitory over the cloister.



INTERIOR OF WASH-HOUSE COURT.

*Photo : E. Dockree.*



Photo : E. Dockree,

THE GUESTEN HALL.

1529; Houghton from 1531 to May 1535, when he suffered martyrdom for his faith. As, however, the troubles of the monastery had commenced some two years earlier, it is improbable that any of its buildings were erected later than 1533.

A study of the plan drawn up by Mr. Carpenter and its comparison with the mediaeval drawing will give a general indication of the extent and character of the additions to the monastic buildings made subsequent to the year 1500, or whatever may be the precise date of the earlier plan. I have noted above that Mr. Carpenter lumps together all the monastic work without endeavouring to distinguish between the periods; also that he is obviously wrong in identifying the present "Master's Court" with the original *parvum claustrum* of the *Conversi*. Such identification postulates an error of some 90 feet in the ancient ground plan. I am further of opinion that he is in error in assigning the ante-chapel to the lay-brothers. Its date is fixed in a carved boss as 1512. The lay-brothers must have been provided with chapel accommodation before this date, possibly in the western portion of the chapel proper, to which Mr. Carpenter indicates a door, sufficiently accessible from the original *parvum claustrum*. Such errors are doubtless due to failure to apprehend the real and, to me, obvious

purpose of the sixteenth century additions. These were exclusively due to the desire to extend hospitality to guests. In fact, the whole of the buildings shown on this plan as monastic, with the exception of the lower part of the south and east walls of the chapel, which are of earlier date, and of the new refectory, which replaced the original "Freytor," owe their origin to this extension of the functions of the monastery.

We may consider, as briefly as may be, what was the character of this transformation, and what are the evidences of its purpose.

The most suggestive feature of all is the inner gateway to the south of Wash-house Court. This is undoubtedly an addition of the sixteenth century, and clearly indicates a sub-division of the monastic buildings. The main gateway remains the general entrance to the enlarged monastery: the inner gateway indicates a further distinction of its occupants. But the offices of the monastery are within this second gateway, and the *Conversi* must have had their abode in close proximity to them. Those, therefore, who dwelt beyond this enclosure can have been no other than the guests of the monastery. This feature, then, gives the key to the changes which took place in the early sixteenth century, and which may be generally described as follows:—(a) The *Parvum Claustrum* was removed, and on a portion of its site the

Guesten Hall \* (wrongly assigned by Mr. Carpenter to the "fifteenth century") was built; (b) the original Freytor was removed, probably converted into a cell, and a new one built on the site of the original prior's cell, being thus placed for convenience in close proximity to the new Guesten Hall; (c) the Prior's lodgings were removed to a new position, intermediate to the monastic buildings and those for the accommodation of guests, to whom he of course would act as official host; (d) for the lay-brothers, whose ancient cloister and habitations had disappeared a new residence was formed in the additional court to the west, which contained on the ground-floor the offices for both monastery and guest-house; (e) a new rectangular quadrangle of two stories was built out to the south, of which the north side was formed by the Guesten Hall and Buttery, the east side (or a part of it) by the Prior's lodgings; the west side, so far as part of the ground-floor is concerned, by the offices; the remainder, no doubt, was assigned to guest chambers; (f) an ante-chapel (date 1512), probably with access from the guests' premises by a cloister, was built to the west of the chapel. Here the guests of the monastery might hear

\* The walls of the original Guesten Hall extended upwards only to a little above the lower tier of windows.

Mass without coming into contact with the monks.

In confirmation of my theory, I may say that I have searched diligently for any appearance of work necessarily much earlier than 1500 in this portion of the building, and can find none. On the other hand, though the Master's Court \* was faced with nine inches of brick work some hundred and fifty years ago, a few original features and others which appear to be reproductions of the original work remain to testify to this later date. Moreover, both history and tradition record the entertainment of strangers in the monastery. Sir Thomas More is known to have spent four years as its guest. It is stated that Erasmus and Dean Colet were also entertained there. Sir Thomas More's visit seems to have been made at the very end of the fifteenth century, when Roche was prior, and the monastery may then have been in its original state. At any rate, his residence there points to the new departure in the uses of the monastery, which may have suggested the transformation of this part of the fabric.

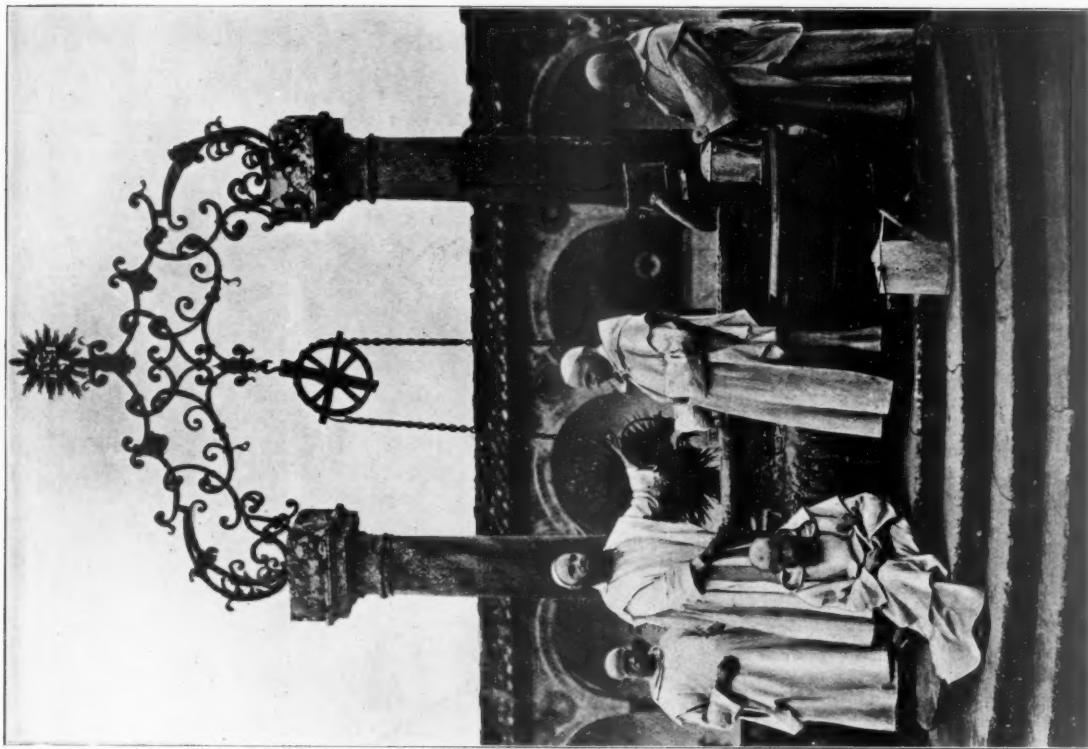
It remains only, so far as may be, to distinguish between the earlier and later work included in this extension. And, seeing that the period

\* It is quite clear that there never was a cloister to this court.



*Photo: E. Dockree.*

DINING-HALL OF "GOWN BOYS." THE SIXTEENTH CENTURY REFECTIONY ENLARGED.

*Charterhouse.*

CARTHUSIANS AT THE MONASTERY  
WELL (CERTOSA, NEAR FLORENCE).  
*Photo: E. Dohree.*



PRIOR'S DOOR TO GUESTEN HALL.

covered by both earlier and later cannot be much more than thirty years, no considerable difference in detail could be expected, nor indeed is it found. The doorway of the Guesten Hall might, indeed, be taken to be somewhat earlier were it not that the ante-chapel work, the date of which is indisputable, is entirely consonant with it. In point of fact, the earlier and later work are to be differentiated by material rather than by character, and, generally speaking, it will be found correct to assign the stone-walled buildings to Tynbygh, and the brickwork to Houghton. This implies that the work projected by the earlier prior was left incomplete : the brickwork of Houghton supplements and completes the work commenced by Tynbygh. One feature is obviously to be attributed to the former alone : the inner gateway was added in his time. This, besides forming, as I have said, a division between the strictly monastic buildings and the premises used by the guests, served also to afford more space to the *Conversi*. Before this gateway was built they were, no doubt, confined by a door on the west side of Wash-house Court, of which the original hinge-hooks are still to be seen. The new arrangement gave them more scope for their perambulations within the monastic domain. The "slypes" give access to the Guest Court, and through it to the lay-brothers' entrance to the chapel.

The main gateway to the monastery stands, as I have said, in the position shown on the ancient map. It must, however, have been rebuilt. This is indicated by the fact that the old picture shows a single gateway, whereas the present structure gives a large and small entrance. Also the shape of the arch is of the later type, as are also the mouldings. The large gate itself is a fine and, on the whole, perfect example of Tudor carpentry. The tracery of the panels might, indeed, be of earlier date than the period we are considering, but here again a comparison with the work of the ante-chapel, which is definitely dated, justifies us in considering it to be posterior to 1500. It is probable that the monastic orders were somewhat conservative in architectural style, and preserved in their buildings a purity of detail which had elsewhere been compromised.

The Carthusian monks then were, to the very last, busy in completing their home. The latest additions were scarcely finished when the storm swept over them. Of their sufferings, constancy, and martyrdom under "that spot of blood and grease on the page of history" it is not within my domain to speak ; and the later history of the Charterhouse buildings, scarcely less interesting than the earlier, must be deferred to a future number.

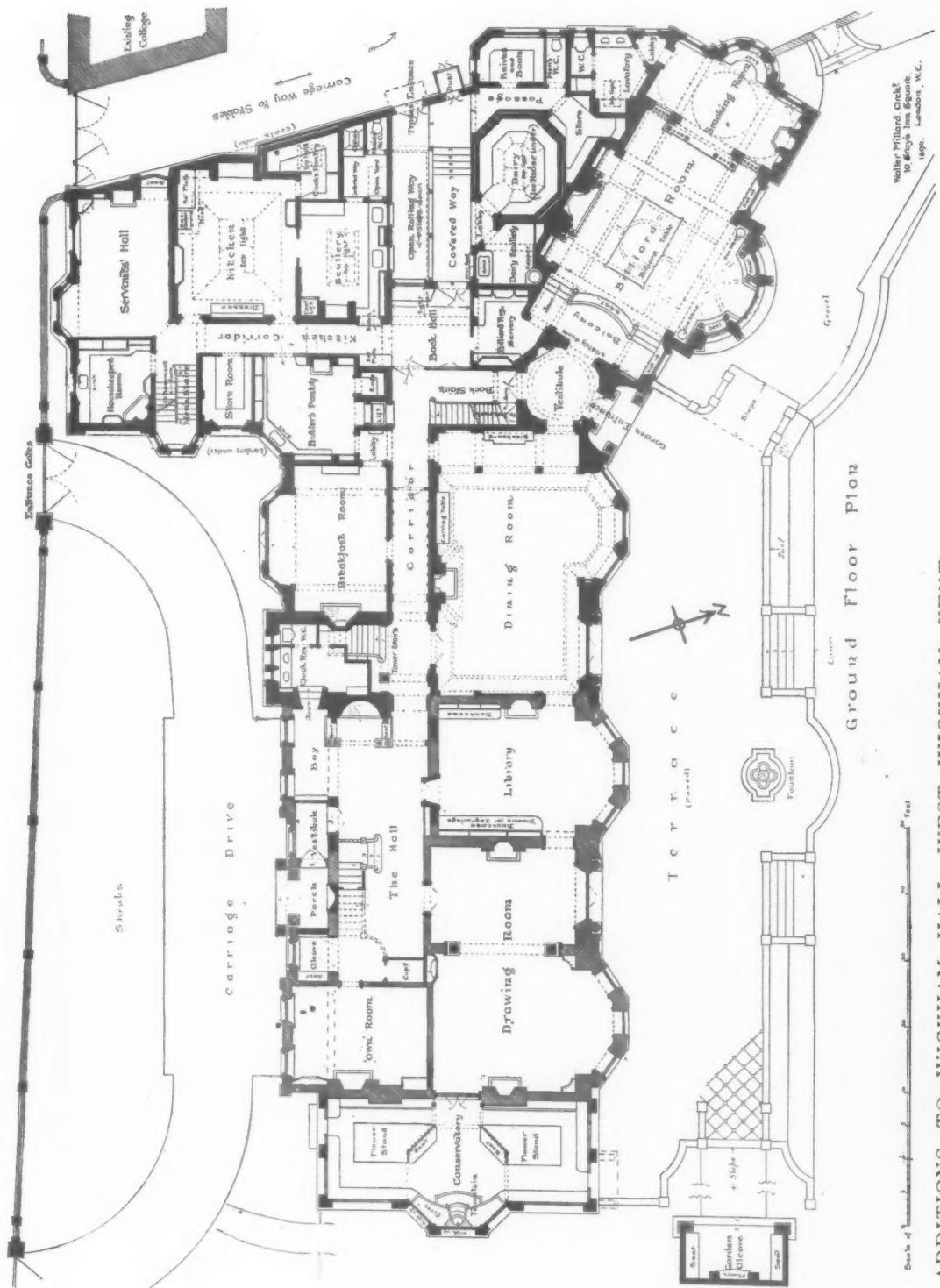


NEW POLICE STATION IN HYDE PARK, LONDON.  
J. DIXON BUTLER, ARCHITECT.

*Photo: H. Irving.*

*Photo : H. Irving.*

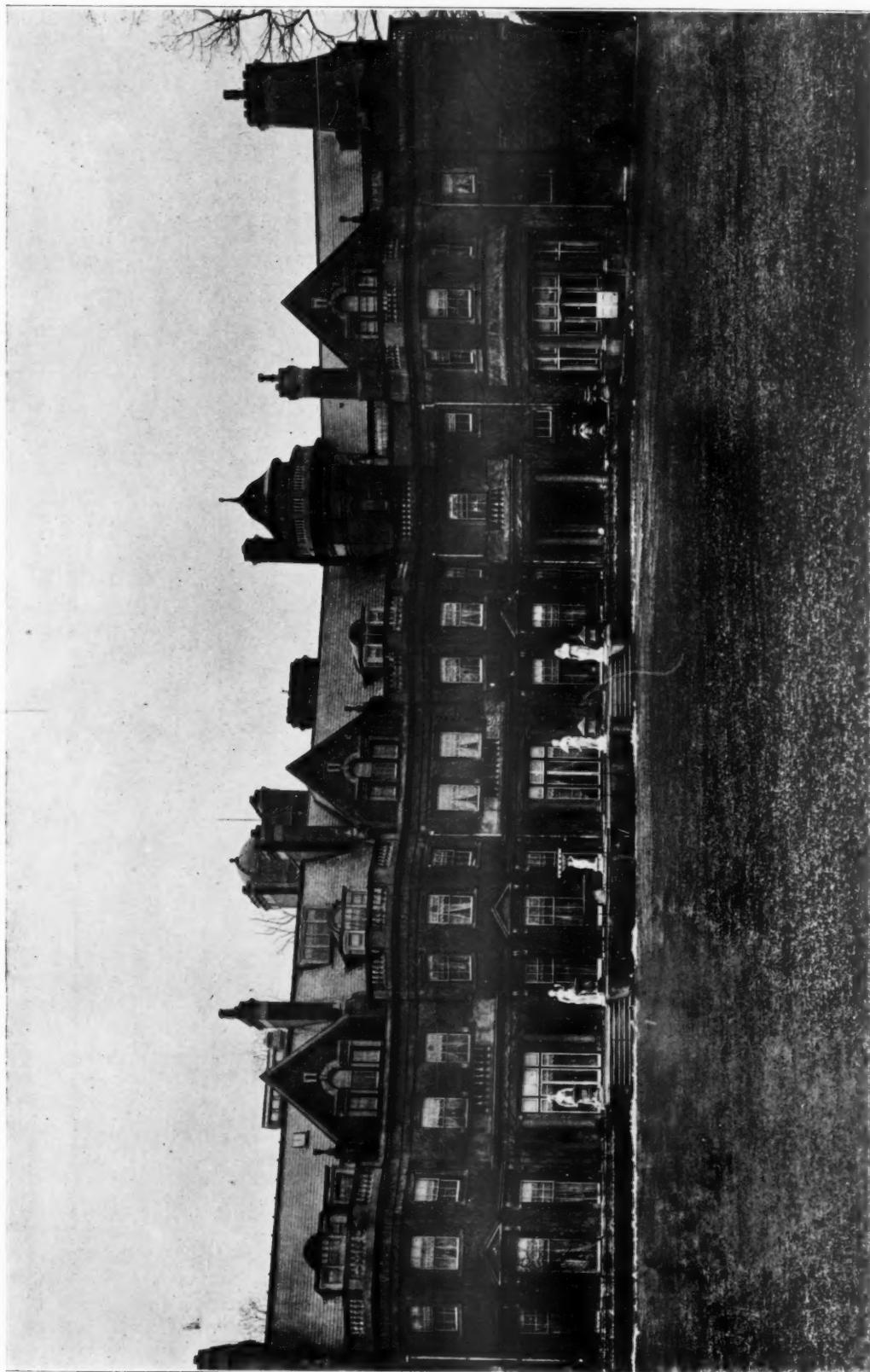
ADDITIONS TO WICKHAM HALL, WEST WICKHAM, KENT.  
THE ENTRANCE FRONT. WALTER MILLARD, ARCHITECT.



ADDITIONS TO WICKHAM HALL, WEST WICKHAM, KENT.  
WALTER MILLARD, ARCHITECT.

NOTE.—NEW WORK IS SHOWN BLACKED IN.

Walter Millard Clark  
No. 4, Grosvenor Gardens, W.C.  
1890.



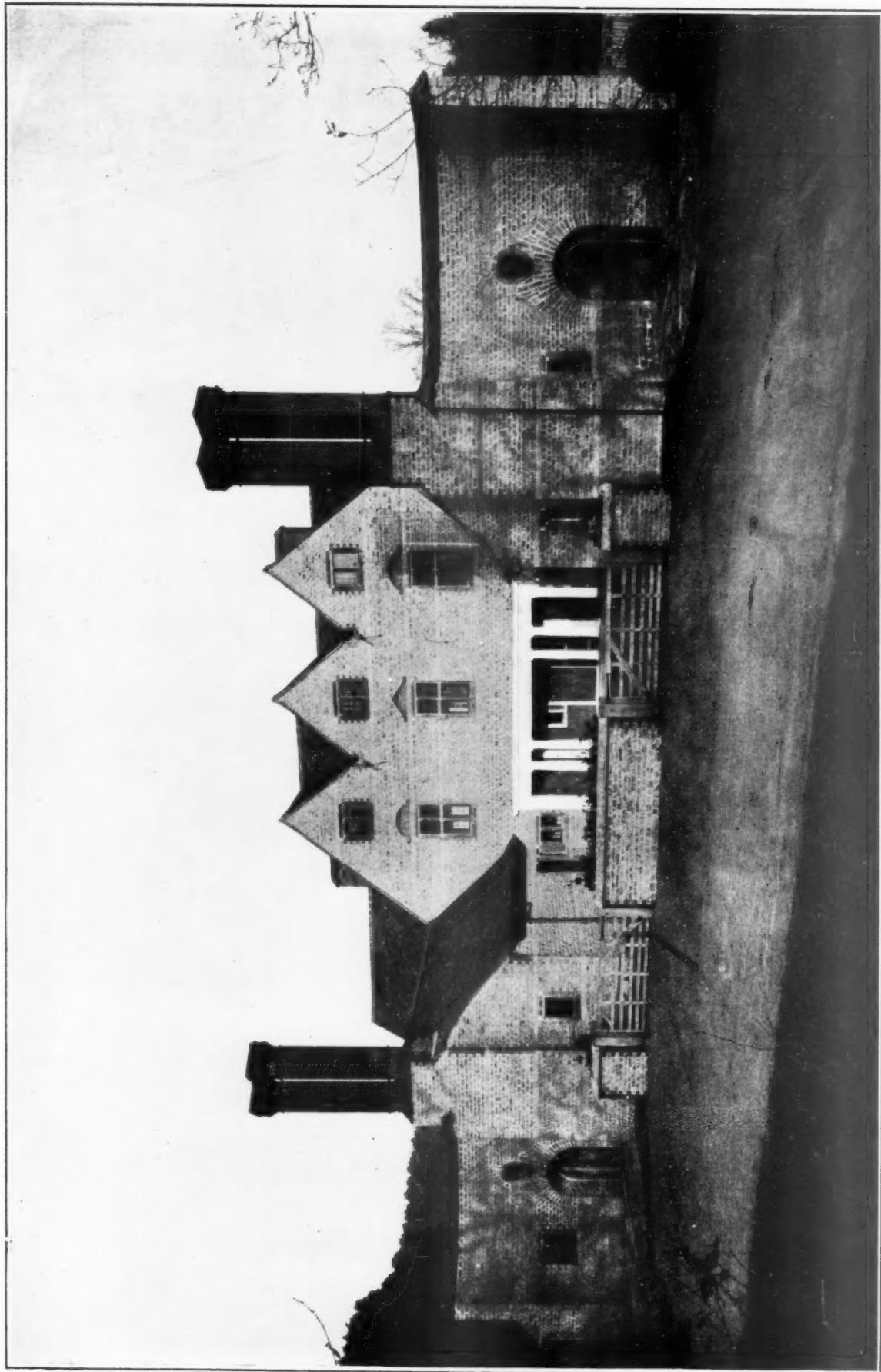
*Photo: H. Trung.*

ADDITIONS TO WICKHAM HALL, WEST WICKHAM, KENT.  
THE GARDEN FRONT. WALTER MILLARD, ARCHITECT.



*Photo: H. Irving.*

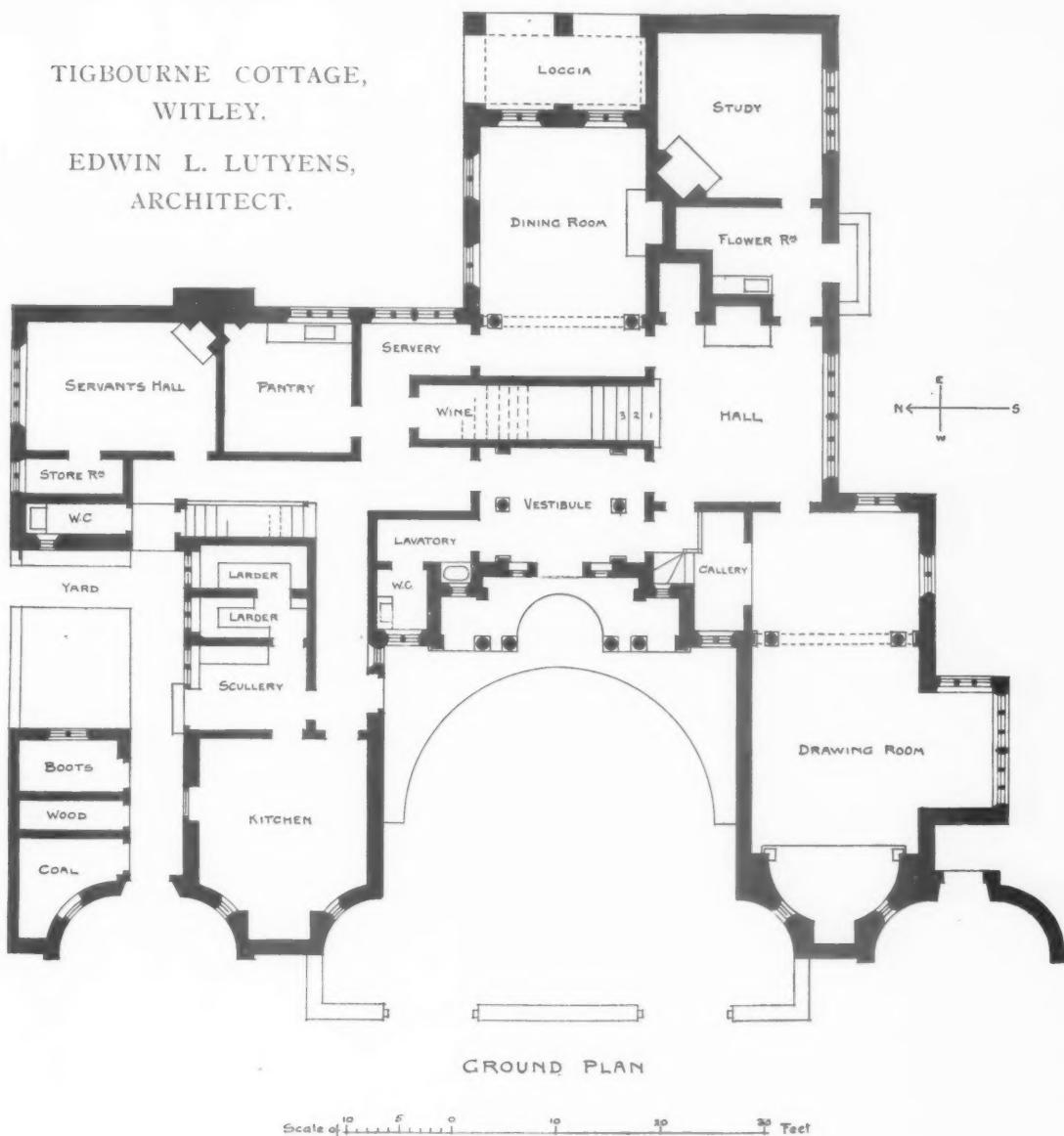
THE LEIGHTON MEMORIAL IN ST. PAUL'S CATHEDRAL.  
THOMAS G. BROCK, R.A., SCULPTOR.



TIGBOURNE COTTAGE, WITLEY.  
EDWIN L. LUTYENS, ARCHITECT.

TIGBOURNE COTTAGE,  
WITLEY.

EDWIN L. LUTYENS,  
ARCHITECT.



## CURRENT ARCHITECTURE AND SCULPTURE.

WICKHAM HALL, KENT.—This house was remodelled and largely extended—as indicated by different tints on the accompanying plan—to meet the requirements of the present owner, the chief reception rooms being kept facing towards the private grounds, whilst the entrance is turned to the road which runs near. The bending round of the new billiard room wing—on the circular garden-entrance vestibule as a pivot—helped to afford needed room for the planning of kitchen offices behind. These latter are to a great extent of one story only in height above the basement, so

that ample light is obtained in the service corridors. The garden-entrance vestibule is cased in marble up to its cornice, above which the saucer dome is filled with glass mosaic of a deep blue colour. The hall, being of two stories in height, is lit by an upper range of windows over the porch and alcoves. The extensive basement contains a range of larders, an ice house, and a variety of cellars and store-rooms. On the upper floors there are an observatory, a smoking-room, a boudoir, a school-room, a nursery, a sitting-room, a large play-room in the roof of the billiard-room wing, and twenty-eight bed-rooms, besides dressing-rooms, four bathrooms, linen-room, store-room, cistern-room, box-rooms, etc. Externally,

the architectural treatment of the extensions was to a great extent governed by that of the original building, Lias lime rough cast being substituted for smooth Portland cement rendering on all plain wall-surfaces throughout. Mr. Walter Millard was the architect.

**TIGBOURNE COURT, WITLEY.**—This is a roadside house built for Edgar Horne, Esq. It is built of Bargate stone with creasing courses in hand-made tiles. The roofs are covered with tiles. The windows are built up of thin red bricks with stone heads and transoms. Mr. Edwin L. Lutyens was the architect.

#### BOOK REVIEWS.

##### G LASGOW.

Glasgow in 1901. By James Hamilton Muir. Illustrated by Muirhead Bone. Glasgow: William Hodge & Co., 1901.

THIS is a remarkable little book giving an admirable idea of Glasgow under the three headings "Glasgow of the Imagination," "Glasgow of Fact," and "Glasgow of Fiction." The authors show an intimate acquaintance with the physiognomy of different Glasgow types, and write with keenness and humour. Mr. Bone is becoming known as a talented draughtsman and etcher. He has found in the dock-yards of Glasgow the subjects of some striking plates, and about the pages of this book are strewn sketches of street and river on a small scale.

##### C O-EDUCATION: OLD STYLE.

"St. Gilbert of Sempringham and the Gilbertines." By Rose Graham. Price 7s. 6d. London: Elliot Stock, 62, Paternoster Row, E.C.

To the general reader there is a certain sameness about the histories of English monastic establishments, and also a certain dulness, excepting when they are brightened by the intercalation of gossip extracted from records preserved in manuscript. The main object of all was the same, and the same fate overtook them, so it is not intended to do more for this book than cordially recommend it to those of our readers who may desire to know where to look for what should be known about this peculiarly English order. Excepting St. Gilbert's, there were no English houses that had not their headquarters in France or elsewhere, and of his 220 houses the majority were in his own county of Lincolnshire. We have here the

broadest distinction, but besides this is another making the Gilbertine Order especially interesting. In the earlier years of the founder's life the Nunnery was not at all common in England. "The Cathedral school of Lincoln was nearly 30 miles from Sempringham; there were no religious houses for men or women to which the children might look for their education, and Gilbert, a good, pure, gentle man, who all his life revered women and had a wonderful influence over them," must have seemed to be the right man in the right place at that time. At any rate his were the earliest houses in which provision was made, subject to the strictest of possible rules, for the religious of the two sexes. But later, when Nunneries entirely separate were common, the need was no longer felt to be pressing, and it is only the earlier houses that have this peculiarity. The subject of co-education engages a great deal of attention to-day, and it is interesting to know how early the problem presented itself. Who desires to know more is referred by the author to an exhaustive and able paper by Miss Bateson on "The Origin and History of Double Monasteries," appearing in the Transactions of the Royal Historical Society, vol. 13.

The author has been blamed for not visiting the sites of all these desolated places in person, but to read the chapter devoted to the "Remains of the Gilbertine Priories" is to realise how little there is to be seen, and to us it appears that the plan we have here of the only house of this Order of which the traces are clear is as much as the occasion calls for. Excavations on the site of Watton Priory, the best preserved and most typical, have enabled Mr. St. John Hope to present a plan of the whole, which cannot be called conjectural, since his drawing only continues the base-lines of the remaining buildings. To turn from the text to the drawing is to understand the whole matter at once. Excepting the church, which monks and nuns had in common, and that church divided internally by a wall of sufficient height to prevent their coming in contact, they had entirely separate premises; we are shown on one sheet what would appear at first sight to be distinct monastic establishments, but in fact a typical house of the Order of St. Gilbert of Sempringham.

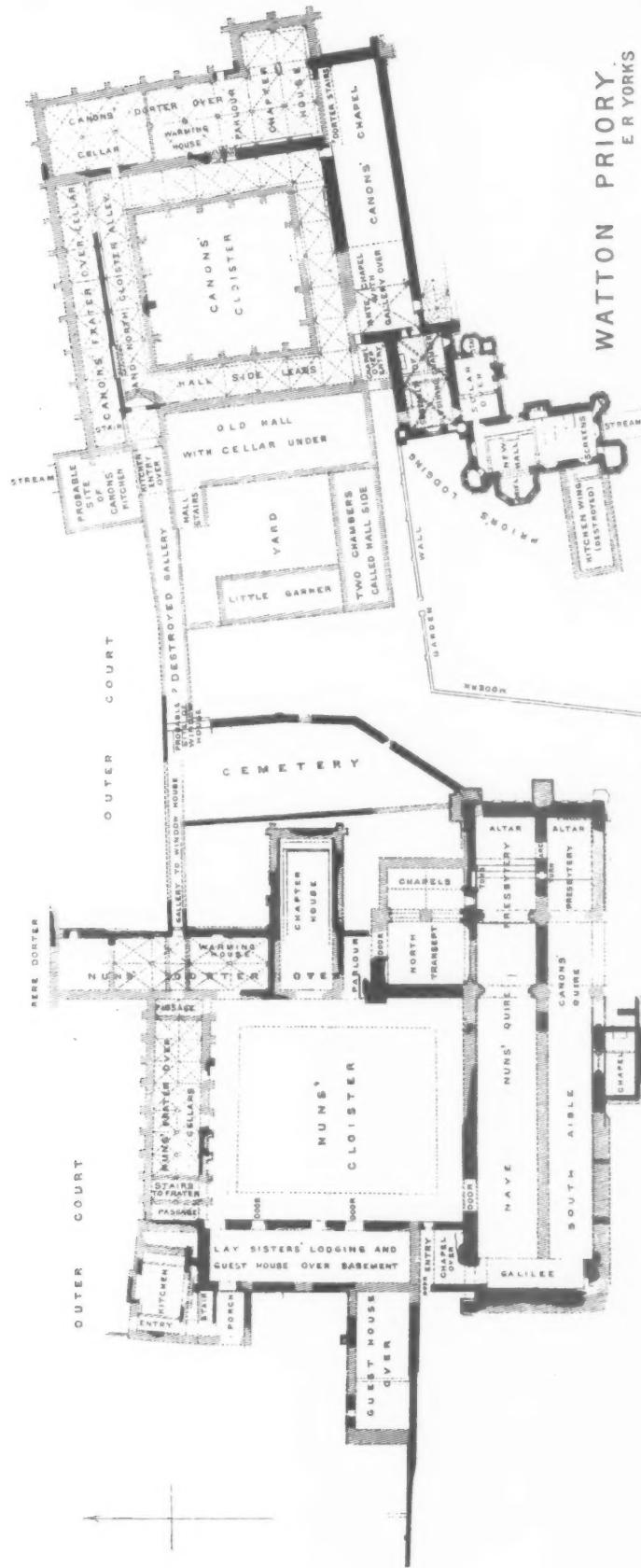
ERNEST RADFORD.

##### SANTA MARIA NOVELLA.

"The Dominican Church of S. M. Novella at Florence." By J. Wood Brown. Edinburgh: Otto Schulze & Co., 1902.

NOTE.—The author, at our request, has drawn up the following summary of the results he has arrived at in his study of the church, and expounded at length in his book.

THE first part of this book brings into view the historical background of the existing Santa Maria Novella. The name is first discussed and rendered into English as "St. Mary Late-Fallows." Totila



FROM "ST. GILBERT OF SEMPRINGHAM AND THE GILBERTINES,"  
BY ROSE GRAHAM. (SEE PREVIOUS PAGE.)

and his barbarians besieged Florence in the year 542 A.D., causing the inhabitants of that city to retire to Fiesole. In the following century, under the Lombard government, a movement began in the opposite direction. Farms that had been abandoned a hundred years before were again colonised under the name of *Novelle*, and one of these by the banks of the Mugnone, near Florence, was the site of the successive ecclesiastical establishments with which this book is concerned. The first, a simple chapel of unknown age, formed at the south-east corner of the Novella court, and dedicated to the Virgin, was designed to form a place of worship for the farm labourers. This is not now visible at Santa Maria Novella, having been destroyed in 1350 to give room for the Spanish chapel, but the general disposition of the farm-court and the road of approach, may still be seen in the buildings of the oldest cloister, which occupy the same site, and in the "Sepolcroto," or Burial Vault, adjoining them, while a marble column on the roof of the Spanish chapel seems meant to indicate where the ancient chapel itself stood.

In the year 983 Santa Maria Novella is mentioned for the first time in the documents, and appears as one of the possessions of the Cathedral Chapter of Florence. It would seem that during the two following centuries the canons made use of the place as a country villa, and a trace of this occupation may be seen in the narrow arcade on the north side of the oldest cloister. This is probably the relic of much more extensive vaulting carried round the interior of the farm-court, and designed to adapt it as a cloister for the canons' country use.

A hundred years later, on a site adjoining that of the primitive chapel, and separated from it only by the road, was built the first parish church of Santa Maria Novella. The date of its consecration was October 30, 1094, and a fairly complete reconstruction of the building can be made by paying attention to old records, and observing the remains of the place still to be seen in the vaults supporting the present sacristy. This church, though so much later in date, had a plan not unlike that of the lately-discovered Santa Maria Antica, in the Forum at Rome. It was a simple, oblong building, oriented to the west, and divided into a central nave with a narrow aisle on each side. The windows were narrow and had a deep splay internally. The altar-wall presented its face immediately to the road, so that there could be no apse, and the choir, like that of Santa Maria Antica, must have been internal. There was probably a rood-screen, from which an ancient painted crucifix, now in the sacristy of the Spanish chapel, may have come. The walls were plastered internally and covered with frescoes. The extreme length of the church reached from the west wall of the sacristy to the middle of the present nave, and in front of it lay an open atrium, just as in the case of its Roman counterpart. The cemetery was on the north of the church, and closely adjoining the church at its north-west corner stood a square campanile with bells. The whole evidently belonged to that first type of Lombard architecture

which has been called\* the "Basilica a colonne," in distinction to those of the "Rotonda" and the "Basilica a volta." This was the plan generally adopted for the smaller country churches of Tuscany at the time when Santa Maria Novella first became a parish.

The second part of the book deals with the existing buildings of church and convent, and presents what will be found a somewhat fresh view of their rise, their dates, and their relation to each other. The Dominicans obtained possession of Santa Maria Novella—then the simple parish church of 1094—in 1221. At first they were too busy in their crusade against the Patarenæ heretics to attempt more in the way of building than the reconstruction necessary to fit the canons' cloister for its new use as the Dominican convent of Florence. It has generally been supposed, indeed, that they did not commence building the present church till 1279, and that a period of seventy years elapsed before it was complete, but there is reason to take a different view of their activity. The friars had begun building before the middle of the thirteenth century, for a Papal bull, dated 1246, speaks of their new church as only needing to be completed. The church was built, it would seem, on the churchyard closely adjoining to the north the building of 1094, and was oriented in the same direction, viz., to the west. It consisted of a nave with an aisle on each side, and had a raised chancel supported on arches thrown across the road or sepolcroto. Its principal door lay eastward, and opened on the old piazza, which was enlarged in 1243–4 for the preaching of Peter Martyr, and, no doubt, in connection with the new church to which it related itself. This church, hitherto strangely overlooked, stood on the site of the existing transepts, which have been formed out of it. The four chapels adjoining the present high altar—two on each side—are the remains of the north aisle of 1246, the Strozzi chapel on the west is the raised chancel, and these parts of the transepts are distinguished architecturally from the rest of the existing church in more than one particular. Within, they show slender angle-shafts crowned by grotesque capitals quite unlike any others in the church, and without, this northern aisle bears a deep frieze of ornamental brickwork not to be seen elsewhere, not even on the chancel, which interrupts it, and thus proclaims itself the work of another age. It was this church of 1246 which Cimabue attended when a schoolboy with the Dominicans at Santa Maria Novella, and thus we learn to believe again Vasari's story of how he learned the rudiments of art while watching the decoration of the Gondi Chapel—the first on the left of the present chancel.

The form of the whole church as it now stands was gained by a device afterwards copied in the works of the Cathedral at Siena. A nave and chancel were to be pushed out north and south from the sides of the former building, so that the church of 1246 would become, when duly heightened and altered, the transepts

\* See Melani, "Manuale di Architettura": Milano, Hoepli, p. 227.

of the new edifice. Work was begun again on this enlarged plan in 1279, and the whole was completed nearly as we now see it by the end of the century; for in 1301 all was ready to shelter the civic ceremonial in which the Podesta and Priors of Florence handed over the city to Charles de Valois, King of France. These two somewhat distinct building periods of the thirteenth century are therefore to be considered as more deeply and really two movements towards the single result we see to-day, and as the seventy years of building spoken of by the old chroniclers took end in 1300 and not in 1350, we may suppose that work had begun on the second church at Santa Maria Novella as early as 1230, or thereby.

The architects, as testified by the "Necrology" of the convent, were Fra Ristoro and Fra Sisto, two *conversi* or lay-brothers of the Order. They passed in 1280 to their work at S. Maria sopra Minerva in Rome, but left at Santa Maria Novella a series of capable designers among the Dominicans — Fra Mazzetto, Fra Albertino Mazzanti, Fra Borghese, Fra Giovanni da Campi, and Fra Jacopo Talenti—who directed the works at Santa Maria Novella from 1280 to 1360. This fact should be noted as a wholesome corrective to the somewhat one-sided view which has lately seen the hand of lay guilds only in the ecclesiastical buildings of those times.

As is well known, Fra Ristoro and Fra Sisto drew Santa Maria Novella on Gothic lines. In what remains of the building of 1246 the rounder arches and remarkable grotesques show that the architects had not then completely broken with the Lombard tradition. But in the later chancel and nave the new style is fully developed, and with a skill and charm which has always been recognised. Even the fifteenth century had a "De Pulchritudine S. M. Novellae," from which Savonarola did not disdain to quote. Michael Angelo was wont to call this church his bride, and the last Manual of Italian Architecture describes it as "a flower of delicious Gothic; one of the most beautiful churches of Italy."<sup>\*</sup>

The great convent had its nucleus in the Canons' Cloister of the twelfth century, handed over along with the church to the Dominicans in 1221. This, with some slight alteration, served the first needs of the Friars by providing them with lodging. Then in the later thirteenth century, as the Order grew in numbers and consequence, building began on a more extensive plan. Garden ground to the south was surrounded with a wall, running at the back of the houses in the Via della Scala, and within this wall an infirmary, a confraternity room, and a whole system of offices and stores were constructed. Next, the Great Cloister was planned to connect these with the original and ancient buildings. This plan was carried out in various moments of building and rebuilding, which lasted till 1350. Finally, the remains of the southern garden were formed into the Green Cloister, about the middle of the century, and the convent was

complete. It was not crowned however till 1419, when the city of Florence built on the west of the Great Cloister a magnificent lodging to receive Pope Martin V. and other distinguished guests of Florence.

The Dominican Santa Maria Novella owed much of its early character to the fact that it became during the thirteenth and fourteenth centuries one of the chief burial churches of Florence. This development coincided with the paving of the original cemetery at San Giovanni and the dispersion of the ancient tombs which once stood there. It is probable that the fine architectural form of the *avello*—a marble sarcophagus sunk in the wall, heraldically carved, and surmounted by an elegant Gothic arch of black and white marble in alternate *vousoirs*—was first developed at Santa Maria Novella under the historical conditions we have mentioned. With a discussion of these interesting matters the second part of the book closes.

Part III. is entirely devoted to the so-called Spanish Chapel. This was in fact the latest and most magnificent Chapter House of the convent, built between 1348 and 1355 by the architect Fra Jacopo da Nipozzano, at the expense of Mico Guidalotti, a merchant of Florence. The chief interest here lies in the frescoed decoration of the place, which tradition says was arranged according to a scheme of subjects furnished by the Prior of the convent. It is probably the latest and most remarkable instance in which pictorial art of no mean order showed herself still the completely subservient *ancilla Domini* in the expression of a determined theological scheme, and it is particularly interesting to us when we notice that here not only pictorial form and colour, but again and again the very architectural lines and disposition of this building are pressed into the same service, and made the vehicles of spiritual teaching. It may be doubted whether any other building in the world can show the like.

Of this scheme of thought the author has attempted a complete exposition. He begins by restoring the original altarpiece which he finds not far off in an ancient panel painting at the corner of the Green Cloister. Here the Incarnation is figured, and followed on the north wall of the chapel by the successive scenes of the Via Dolorosa, the Crucifixion, and the Descent into Hell. Above, in the north vault, we find the Resurrection, and, between, the symbol of the Pelican feeding her young with her own blood shows that the Mystery of the Eucharist was chiefly intended here, as indeed it held the first place in the founder's mind; for Guidalotti was a devotee of the Corpus Domini. The south wall, opposite, presents the daily renewed Imitation of the Great sacrifice in the devoted life of the Dominican Order, while the roof-space shows the Ascension of Christ on his way to become the High Priest of men above.

On the west and east walls the Gift of the Spirit is figured with special reference to the chapters expected to assemble here. This second cycle of thought is connected with the first pictorially through the

\* Melani, *op. cit.*, p. 258.

symbol of the Lamb in Glory from Whom the Spirit descends; which symbol being placed on the boss at the intersection of the vaulting, the relation of thought is made to follow the architectural conditions in a very subtle and remarkable way. The division of this second cycle may be surely found in the contrasted ideas of wisdom and power represented on the west and east walls respectively, and is vouched for by a Latin text which may be read on the book displayed by the St. Thomas Aquinas of the west wall. The subdivisions here are very subtle, and it may be doubted whether in this book or any other their full significance has been reached. The wisdom of the west wall appears in the lower form of the seven earthly sciences founded on study of the book of nature. Next come the seven departments of sacred knowledge, which find their subject matter in Holy Scripture. Aquinas, because of his success in such studies, is seen raised to a seat among the inspired authors from whom he drew his material, and over all float the graces and virtues pointing to the practical issue of wisdom in the right conduct of life. The west vault has a fresco of the descent of the Holy Ghost at Pentecost as the moment when this wisdom was fully opened to the Church and the world.

On the east wall, opposite, we have the power which derives from the same source. This is seen first in the confusion of heresy and conversion of unbelievers, always a main object of Dominican activity. On the same level we find the visible Church as the result of this preaching, while above lies a triumph of another kind, where worldliness melts into penitence and finds its way to Paradise, while, over all, the Throne of Christ in His coming to judgment reminds us that these earthly powers are but prophetic of a later and greater day. In the east vault the Spirit is finely shown as the wind, powerful though invisible, which urges on her course the ship of the Church, while Peter saved from the sea as the first penitent, and the figure of a fisherman on the shore, sufficiently reinforce the ideas already expounded on the wall below. The writer claims that his is the first attempt to furnish a consistent and complete exposition of these interesting frescoes as a unity of thought and art.

In the Appendices, of which there are three, some points are dealt with briefly which might easily have furnished matter for more detailed comment. In Appendix I., under the date of 1209, we have documents recording the sale of building rights over ground belonging to the church, and the details are exceedingly curious, as they throw light on the common Tuscan domestic architecture of these early days. The largest plot of ground sold measured only ten feet by fifteen, yet it was meant to supply the site for a house. The building erected on it then could be of no other form than that of a tolerably lofty tower, of which each storey would furnish one room. Such would seem to have been the general plan on which early Tuscan houses rose. The well-known laws of later times which forbade building above a certain height were not perhaps meant so much to tame the

pride of a turbulent nobility as to hold the place in architecture of those sumptuary enactments which about the same date prescribed the number of yards of brocade or fur which a citizen might buy for his own dress or his wife's. That ordinary houses took this form helps us to understand, too, how till comparatively recent times so small a Tuscan town as San Gimignano possessed, as it is said to have done, no less than seventy towers.

The second Appendix gives a minute historical account of the Church of Santa Maria Novella, altar by altar and chapel by chapel. Many of the facts recorded here are the ground for those conclusions as to the date and order of the successive buildings, which may seem the most hazardous and least well founded part of this work. For this reason, if for no other, it is well they should not be overlooked by readers of the book.

In the final Appendix—that which refers to the Spanish Chapel—will be found a statement of one of the most difficult problems in the history of Art: the question of the authorship of those remarkable frescoes. No absolute conclusion is attempted, but these notes point strongly in the direction of the Gaddi and Orgagna. As to the latter, two works of Andrea Orgagna are universally held for his: the altarpiece of the Strozzi Chapel and the Tabernacle of Or San Michele. It is certainly remarkable that the main *motif* of this picture, painted in 1357, is reproduced in the chapter house frescoes, and that the architectural design of the Tabernacle is found repeated in each compartment of the *sedile* on the west, or wisdom, wall. And the Prior of the day, in whose control the decoration of the chapter was largely left by its founder, had, only five years before, chosen Orgagna to paint the walls of the chancel. Ghiberti, who refers to this earlier work, adds that the artist did much more in Santa Maria Novella. Can he have meant—we may ask—to hint at the frescoes of the chapter? for, if not, it will be hard to know what he refers to.

We may close our account of this book by drawing attention to the fact that a minute and curious architectural detail in the design of the Cathedral of Florence, as painted on the east wall of the Spanish Chapel, has led to the conclusion that at least this part of the fresco was finished before 1363. For the clerestory windows as drawn here are of the ordinary Gothic shape, but in the year mentioned the Board of Works decided they should be made round, as they are in the church itself. The whole question of the relation which this design bears to the existing building is one which no competent writer has fully treated since the original records of the Board of Works were made generally accessible, though it rose into a certain prominence some thirty years since when the design for the new façade was under discussion. Some architect of antiquarian tastes might do good service by turning his attention to this matter, which promises to throw new light on the varying styles of Tuscan building during the fourteenth century.